

AN ENUMERATION
OF THE
PLANTS COLLECTED IN BOLIVIA
BY MIGUEL BANG

PART 4
WITH DESCRIPTIONS OF NEW GENERA
AND SPECIES

BY HENRY H. RUSBY

NEW YORK

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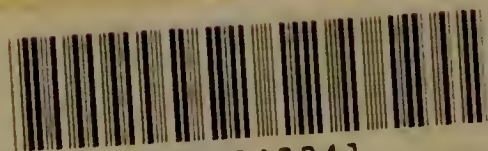
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An Enumeration of the Plants Collected in Bolivia by
Miguel Bang. Part 4*

With Descriptions of New Genera and Species

BY HENRY H. RUSBY

The publication of this part completes the enumeration of all determinable specimens of Mr. Bang's Bolivian collections, with the exception of the Gramineae and a considerable number of species represented by scraps only, or by single specimens, and which do not represent distributions. Among the last are a number of undescribed species, which may be published in connection with the extensive Bolivian collections of Mr. R. S. Williams.

The determination of Bolivian grasses demands critical study by specialists, which cannot now be given them, and the publication of these plants must be deferred.

Corrections, Additions and Notes Referring to Preceding Parts

1695, "*CAOPIA GUIANENSIS*," appears to be *C. VIRIDIFLORA* (Pl. & Tr.) Kuntze.

1718, "*CLUSIA* sp.," is

Havetiopsis glauca sp. nov.

Glabrous; branchlets short, spreading, dark-brown; leaves 4-8 cm. long, 1.5-3 cm. broad, oblanceolate or obovate, obtuse, tapering into a petiole 1-1.5 cm. long, slightly inequilateral, pale-green, thin; venation lightly-prominent both sides, the secondaries

* Parts 1-3 were published in the Memoirs of the Torrey Botanical Club, as follows:

Part 1. Mem. Torrey Club 3³: 1-67. 1893.

Part 2. Mem. Torrey Club 4: 203-274. 1895.

Part 3. Mem. Torrey Club 6: 1-130. 1896.

about 25 pairs, ascending at an angle of about 25° with the midrib, their branches joining them at an angle of 45° ; panicles sessile or short-peduncled, trichotomous, 2-4 cm. long and broad, very loose, the branches strongly angled, the angles lightly winged; bracts about 1 mm. long and rather broader, ovate, keeled, whitish, thick and rigid; pedicels similar, about 4 mm. long, 2-bracted at the middle and at the summit, thickened upward; buds subglobular, about 3 mm. broad; outer sepals 3 mm., inner 6 mm. long; petals about 5 mm. long, thick, shining, the margin obscurely crenate; united portion of filaments 1 mm. long, 1.5 mm. broad, dark-brown, the free portion of the filaments about 1.5 mm. long, the anthers 1 mm. long, obovate, brown with whitish margins.

Apparently the same as specimens collected by *Pearce*.

1489 is not "*EROTIUM SUBINTEGRIFOLIUM*," but a distinct species.

In the Kew herbarium the specimen of the same collected by *Pentland* is labeled "*Freziera subdimidiata* Planch.," but I cannot find that this name has been published.

1154. The authorship of *CEIBA BOLIVIENSIS* is Britten & Baker, not "Britten."

1362 and 1401, "*HELICTERES BARNENSIS*," are

***Helicteres guanaiensis* sp. nov.**

Finely and closely stellate-tomentose, the branchlets somewhat scurfy; stipules 6-9 mm. long, linear; petioles 1.5 cm. long, stout; blades 5-10 cm. long, 4-6 cm. broad, ovate, acute, cordate, unequally crenate-dentate, deep-green above, yellowish-green underneath, 5- to 7-costate, the ribs connected by their numerous branches; flowering pedicels 6 mm. long, slender; calyx-tube 1.25 cm. long, infundibular, the fully expanded corolla 3-4 cm. broad; gynophore 7.5 cm. long; stamen-tube bearing at the summit a short, broad funnel-form dilation about 1 mm. long, and about equaling the free portions of the filaments; anthers 2, blackish, about 1 mm. long; fruiting peduncles 3-4 cm. long, spreading and ascending; capsules 2.5-3 cm. long, 1.25 cm. broad, ovoid, obtuse, truncate at the base, closely spiral, with 2 or 3 turns. (*Nos.* 1362, type, and 1401.)

935, "*BRITTONELLA PILOSA*," is *MIONANDRA CAMAREOIDES* Griseb. Goett. Abh. 19: 101. 1874.

788, "*GERANIUM SESSILIFLORUM*," has been described as a new species, *G. BANGII*, by Hieronymus, in Bot. Jahrb. 21: 314.

839, "*BRUNELLIA BOLIVIANA* Britton (?)," is

***Brunellia rhoides* sp. nov.**

Younger portions and inflorescence shortly ferruginous-tomentose, the lower leaf-surfaces and midrib above tomentellate; branchlets

very stout, very coarsely angled and sulcate; petioles stout, 6-10 cm. long, deeply sulcate; rachis 1-1.5 dm. long; leaflets mostly 3 or 4 pairs, their petiolules 3-5 mm. long, very stout; blades 5-10 cm. long, 2.5-4.5 cm. broad, the lower smaller, oblong-lanceolate, inequilateral, especially at the base, mostly blunt and frequently emarginate at the apex, crenate, shining above, very pale or whitish beneath, with the venation prominent and finely reticulate, the secondaries about 20 pairs, very slender, ending almost in the sinuses in a minute apiculation; peduncles of the panicles about 4 cm. long, stout, coarsely angled, the flowering portion rather longer, almost as broad, very inequilateral, dense; buds globose or broader than long, strongly 5-angled, blunt, 2 mm. broad; pedicels less than 1 mm. long, stout; calyx-lobes 2 mm. long, 1.5 mm. broad, ovate, obtusish, thick, pilose; filaments 2 mm. long, thick, attenuate, the white anthers nearly 1 mm. long, very broad; pistillate flowers not seen. The same as *no.* 1991.

664, "*BRUNELLIA BOLIVIANA* Britton, sp. nov.," is *B. OLIVERII* Britton, Bull. Torrey Club 16: 160. 1889.

Dr. Britton applied the name *B. boliviana* to Rusby's *no.* 2577, but by an inadvertence my publication referred it to Mr. Bang's specimen of *B. Oliverii*. I have thus unfortunately reduced the name "*B. boliviana*" to a synonym, and my *no.* 2577 must be described under a new name.

1515, "*ERYTHRINA RUBINERVIA*," is *E. AMASISA* Spruce, Jour. Linn. Soc. 3: 202. 1859.

1090, "*CASSIA* sp." is

Cassia acinacicarpa sp. nov.

Gray and densely short-tomentose throughout; branches greenish, terete, ascending, densely leafy; stipules caducous, not seen; petioles 1.5-2 cm. long, stout; rachis 2.5-3 cm. long, bearing three pairs of sessile leaflets, which are 1.5-4 cm. long, 0.6-1 cm. broad, lance-oblong, inequilateral, subrotund at the base, acute and strongly mucronate at the apex, entire, the venation obscure; peduncles 2 cm. long, about 7-flowered, slender; pedicels 2 cm. long, very slender, erect; sepals ovate, obtuse, densely long-pilose without, especially on the purple, subcarinate middle portion, lightly pilose within, the largest 7 mm. long, 4 mm. broad, the smaller 6 mm. long, 2.5 mm. broad; longer petals 12 mm. long, 5 mm. broad, the shorter 9 mm. long, 6 mm. broad, the standard 10 mm. long and broad; all very strongly nerved; longest filaments 6 mm. long, stout, their anthers 6 mm. long, or about 7 mm. if straightened; ovary 1 cm. long, strongly arcuately curved, the style 1.5 mm. long; immature fruit densely tomentose and gray.

Above Cochabamba.

- 769, "*POLYLEPIS VILLOSA*," is described as a new species, P. BESSERI, by Hieronymus, Bot. Jahrb. 21: 312. 1895.
- 311, "*WINDMANNIA ELLIPTICA*," is *W. SORBIFOLIA* H.B.K. Nov. Gen. 6: 57.
- 677, "*CUPHEA* ———," is *C. MESOSTEMON* Koehne in Mart. Fl. Bras. 13²: 252.
- 1005, omitted, is *MENTZELIA FENDLERIANA* Urb. & Gilg, Mem. Torrey Club 3: 34.
- 333, "*BEGONIA FAGOPYROIDES*" (also *Rusby 686*), is *B. SANGUINEA* Raddi, Mem. Mod. 18: 409. 1820.
- 511, omitted, is probably *COUSSAREA TRIFLORA* Muell.-Arg. Flora 58: 467. 1875. Yungas, 1890.
- 371, "*VIBURNUM LASIOPHYLLUM*," is *V. SEEMENII* Graebn. Bot. Jahrb. 37: 435. 1906.
- 1841, "*VALERIANA MICROPTERINA*," is *V. POTERIOIDES* Graebn. Bot. Jahrb. 37: 441. 1906.
- 1428, omitted, is *VERNONIA ARISTOSQUAMOSA* Britton, Bull. Torrey Club 18: 332.
- 1484, "*VERNONIA TRIXIOIDES* sp. nov.," is included by Hieronymus in *V. FULTA* Griseb, Symb. 164.
- 1208, "*EUPATORIUM CONYZOIDES*," is described as a new species, *E. SUBSCANDENS*, by Hieronymus, Bot. Jahrb. 22: 742. 1897.
- 1444, "*EUPATORIUM CONYZOIDES*," is referred by the same author to *E. CHRISTIANUM* Baker, in Mart. Fl. Bras. 6²: 298. It is the same as *Rusby 1621*.
- 913, "*ERIGERON BRITTONIANUM* sp. nov." Prof. Solms-Laubach has kindly pointed out that this is identical with *E. ROSULATUM* Wedd. Chlor. And.
- 1113, "*EUPATORIUM VENOSISSIMUM*," is *OPHYROSPORUS VENOSISSIMUS* (Rusby) Robinson, Proc. Am. Acad. 41: 271. 1905.
- 207, "*ZINNIA PAUCIFLORA*," is *Z. MULTIFLORA* L. Sp. Pl. ed. 2. 1269, according to B. L. Robinson, who maintains that these are distinct species.
- 974, "*VERBESINA BRIDGESII* n. sp." While my name and description were in manuscript, Klatt (Ann. Nat. Hofmus. Wien 9: 361) published this as *V. BOLIVIANA*.
- 1340, "*ZEXMENIA* sp.?" is

***Zexmenia foliosa* sp. nov.**

Stems lightly, leaves strongly scabrous; stems tall and stout, sharply striate; petioles about 2 cm. long, consisting of the nar-

rowed leaf-bases, broadly dilated at the insertion; blades 1-1.5 dm. long, 4.5-9 cm. broad, somewhat angularly ovate, the subtruncate base abruptly produced into the widely margined petiole, acuminate and acute at the apex, coarsely serrate, membranaceous, dark-green above, pale underneath, 3-nerved, the lateral nerves originating a short distance above the base, the remaining secondaries about 10 pairs, slender; heads several at the summit, the slender, strongly scabrous peduncles about 2 cm. long; outer subfoliaceous bracts of the involucre varying from 1.25-2.5 cm. long, 2-4 mm. broad, linear-lanceolate, tapering regularly from the base to the acute apex, finely nerved; scales of the disk 1.25 cm. long, closely folded, keeled, the acuminate apex lightly recurved; akene 4 mm. long, oblanceolate, strongly flattened and narrowly winged; pappus cupulate, triangularly toothed, the lateral tooth bearing a seta 3-5 mm. long; corolla 1 cm. long, the lower, narrow-cylindrical portion of the tube 3 mm. long, the teeth 1 mm. long, ovate, acutish, the remainder infundibular; anthers black, 4 mm. long, the triangular apical appendages black, acute, sagittate, 0.5 mm. long, the base sagittate; style-branches slightly flattened, 2 mm. long, tipped with linear appendages nearly 1 mm. long.

500, "*CENTROPOGON SURINAMENSIS*," is described as a new species, C. BANGII, by A. Zahlbruckner, in Bull. Torrey Club 24: 372. 1897.

738, "*CENTROPOGON* sp.," and 738a, "*C. SURINAMENSIS*," are *C. MANDONIS* A. Zahlb.

707, "*GAULTHERIA CONFERTA*," is

***Gaultheria barosmoides* sp. nov.**

Stems creeping, stout, the branches ascending, 15-25 cm. long, brown, densely leafy, loosely clothed with very coarse, spreading, ferruginous, at length deciduous hairs; petioles 1-2 mm. long and almost as broad; blades 6-12 mm. long, 4-8 mm. broad, oval or slightly ovate, the base rounded, the summit blunt or with a small, obtuse point; very thick and rigid, with revolute margin bearing about 6 pairs of short, obtuse teeth, pale-green, black-dotted underneath, the venation on the lower surface prominent, on the upper less so, or impressed when old; principal secondaries mostly 2 pairs, originating below the middle and converging near the summit; bracts broadly ovate, blunt, minutely toothed, brown; pedicels extremely short, stout; flowers about 5 mm. long; calyx three-fourths the length of the corolla, divided nearly to the base, the lobes broadly ovate, acuminate, coriaceous; corolla ovoid-conical, the teeth very small, oval, obtuse; stamens 3 mm. long, the filament broad, dilated at the base, the anther oval, bearing at the summit 4 hair-like awns about half its own length; ovary 2 mm. broad, deeply 5-lobed, the stout style nearly twice its length; fruit 9 mm. long, subglobose, drying black. The same as no. 1905.

393, "*CLETHRA BRASILIENSIS*," I now regard as *C. TINIFOLIA* Sw. Prodr. Veg. Ind. Occ. 74.

1403 is probably the same as the preceding, and is the same as specimens collected by *Pearce* at Sandillani, 7000-8000 ft., April, 1865. It is not clear as to how great is the variation in length of bracts in the same species, in this genus. Apparently, the character is extremely variable.

717, "*CLETHRA BREVIFOLIA*," is

***Clethra cuneata* sp. nov.**

Strongly ferruginous-tomentose, the upper leaf-surfaces papillose; much-branched, the branchlets short, ascending, densely leafy, blackish; petioles 5-8 cm. long, very stout, dilated at the insertion; blades 4-7 cm. long, 2.5-4 cm. broad, obovate, cuneate or acute at the base, rounded at the apex, obscurely sinuate-margined, coriaceous, thick, the principal veins impressed above, very prominent underneath, the secondaries 9-12 pairs, connected by the tertiaries, the veinlets finely and strongly reticulate; racemes 5-7 cm. long, numerous in a short-peduncled terminal umbel, mostly simple, the pedicels 3-5 mm. apart, recurved; sepals thick, rigid, 3 mm. long, nearly 2 mm. broad, oval-ovate, obtuse, densely ferruginous, the inner with white, smooth margins; petals 3.5 mm. long, 3 mm. broad, obovate, white, the base thick and brownish, the margin very delicate, the apex subtruncate, or in age emarginate or cleft; filaments 2 mm. long, dilated at the base; anthers nearly 1 mm. long, oval, the thecae much separated at apex and base; ovary densely gray-pilose, 1.5 mm. long, 2 mm. broad; style stout, purple, 1 mm. long, the three stout lobes lightly recurved.

Yungas, 1890. The same as *Mandon* 562; also collected by *Lambert*.

1163, omitted, is

***Mayepia implicata* sp. nov.**

Branchlets numerous, weak, gray, rough-verrucose; petioles 0.5-1 cm. long, stout, strongly channeled above; blades 4-8 cm. long, 1.5-3 cm. broad, lance-oblong, short-acuminate at both ends, obtuse, entire, rigid, glabrous, the midrib impressed above, terete and very prominent underneath, like the 7-8 pairs of slender, crooked secondaries, which connect at some distance from the margin; flowers densely paniced and tangled; calyx divided nearly to the base, the lobes nearly 2 mm. long, oval or obovate, with rounded summit, green, densely gray-pilose; petals 6-8 mm. long, united at the base, or even throughout, in pairs; filaments scarcely any; anther triangular-ovate, obtuse, 0.5 mm. long; pistil about as long as the calyx, lance-ovoid.

Vic. Cochabamba, 1891.

1120 is MANDEVILLA BANGII, as published, but it now appears that Mr. Bang sent a second species under this number. If any of these were distributed, they can be recognized by the following description. They appear identical with specimens collected by *Lorenz* at Tucuman and labeled in Herb. Kew "*Echites funiformis* Griseb." But there is an *Echites funiformis* Vell., which is not Mr. Bang's plant.

Mandevilla subcordata sp. nov.

Glabrous except the finely puberulent petioles and lower leaf-surfaces; branches slender, the internodes elongated; petioles 1.25-3 cm. long, slender; blades 6-8 cm. long, 4-6 cm. wide, oval to ovate, lightly cordate, abruptly short-acuminate and acute, membranaceous, slightly shining above, puberulent underneath, the reddish secondaries 14-16 pairs, the venation finely reticulate, not prominent, translucent; flowering peduncles 5-10 cm. long, few-flowered; pedicels stoutish, 6 mm. long; calyx 8 mm. long, the segments 3 mm. broad, acuminate and acute, thin, when young ciliate at the base; corolla rose-purple, the tube 4 cm. long, infundibular, the anthers about at the middle or a little higher; limb-lobes 3 cm. long and nearly as broad, obovate; anthers 6 mm. long; fruit not seen.

Near snow-line, Mt. Tunari, 1891.

1065, omitted, is MANDEVILLA BANGII.

249, omitted, is (?) DIPLADENIA ILLUSTRIS A. DC. Prodr. 8: 483.

The same form was collected by *Pearce* at Pintobamba, 6000-7000 feet, November, 1863. The form is less tomentose than Brazilian specimens, *Glaziov 17134*.

985, "SARCOSTEMMA INCANUM A. DC.," is

Oxystelma Vailiae sp. nov.

Finely canescent throughout; stems very slender, purplish-green, finely striate; petioles 1-2 cm. long, slender, lightly channelled above, faintly keeled underneath; blades 1-3 cm. long, 0.7-1.5 cm. broad, triangular-ovate or slightly hastate, cordate by a broad shallow sinus, the lobes rounded, acute at the apex, thin, pale-green, the venation slender, inconspicuous, slightly 3-nerved by the stronger basal secondaries; peduncles 1-2 cm. long; umbels 5-10-flowered; pedicels slender, mostly longer at maturity than the peduncles; calyx green, rotate, about 8 mm. broad, divided nearly to the base, the lobes triangular-lanceolate, acuminate and acute; corolla sulphur-yellow with a purple eye, 2 cm. broad, subrotate, shallowly 5-lobed, the lobes triangulate; outer crown purple, closely adnate to the corolla; scales of the inner crown about 2 mm. long, saccate,

strongly laterally compressed, minutely 2-ligulate upon the inner margins.

Vic. Cochabamba, 1891. (*Nos.* 985, type, and 2005.) The same collected in Bolivia by *Bridges*.

479, "*DITASSA LANCEOLATA*," is certainly not that species, and is apparently not described, but the inflorescence is too young for a determination. It was first regarded as identical with *Mandon* 354 and *Holton* 456, so-called, but these represent still another species, which is undescribed.

1275, "*BLEPHARODON MUCRONATUM*," is *VAILIA MUCRONATA* Rusby, Bull. Torrey Club 25: 542. 1898.

GENTIANACEAE. At the time that the third part of this enumeration was going through the press, Dr. Gilg (Bot. Jahrb. 22: 301-347. 1896) published a large number of new species of Gentianaceae from Bolivia, and a number of my new species were among them. Being in the country, I did not learn of the publication in time, and a number of synonyms resulted, as follows:

1015, "*GENTIANA SPECTABILIS*," is *G. DIELSIANA* Gilg.

1143, "*G. MANDONII*," is *G. INAEQUICALYX* Gilg.

1230, "*G. VIRGATA*," is *G. KUSNEZOWII* Gilg.

1132, "*G. BANGII* Rusby," is *G. ALBIDO-COERULEA* Gilg.

1231, "*G. SEMINUDA*," is *G. GYNOPHORA* Gilg.

1232, "*G. COCHABAMBENSIS*," is perhaps *G. KUNTZEI* Gilg.

1153, "*G. PRIMULIFOLIA* Griseb.," is *G. BANGII* Gilg.

719, "*G. PUNICEA* Wedd.," is *G. DISSITIFOLIA* Griseb.

1562, "*VOYRIA UNIFLORA*," is *LEIPHEIMOS APHYLLA* (Jacq.)

Gilg, in E. & P. Nat. Pfl.

520, "*LISIANTHUS CORYMBOSUS*," is *MACROCARPAEA BANGIANA* Gilg.

1697 and (?) 339, "*LISIANTHUS CALYGONUS*," are *SYMBOLANTHUS BRITTONIANUS* Gilg.

1394 and 1443, "*CORDIA SALZMANNI*," are perhaps *C. LAXIFLORA* H.B.K. If not, they are an undescribed species.

313, omitted, is *CORDIA GERASACANTHUS* L. Syst. ed. 10. 936.

589, "*IPOMOEA VARIABILIS*," is *CALONYCTION ACULEATUM* (L.)

House, Bull. N. Y. Bot. Gard. 3: 301.

32, "*SOLANUM LYCIOIDES*," is *S. PSEUDO-LYCIOIDES* Rusby, Bull. Torrey Club 26: 193. *

31, "SOLANUM NUDUM," is (?) S. CYMOSUM R. & P. Fl. Per. 2:

31, *pl.* 160.

740, "SOLANUM MONTANUM," I can now hardly believe pertains to that species. nor have I been able to determine it.

1740, "SOLANUM NUTANS," is

Bassovia phytolaccoides sp. nov.

Inflorescence and lower surfaces of the younger leaves minutely roughish-puberulent; branches herbaceous, weak, coarsely angled; petioles 1-2 cm. long, channeled above and, like the midrib, purple-tinted; blades 1-2 dm. long, 0.5-1 dm. broad, oval-ovate, nearly equilateral, acute at both ends, entire, very thin, deep-green, the venation inconspicuous above, prominent underneath, the 6-8 pairs of secondaries slender, very strongly upcurved; peduncles 1-2 cm. long, slender, the cymes racemiform; pedicels 0.5-1 cm. long, sub-filiform; calyx 1.5 mm. long, 3 mm. broad, crateriform, the margin sinuately lobed; corolla 7 mm. long, white or whitish with a deep-blue center, deeply lobed, the lobes ovate, acuminate, costate, anthers 6 mm. long, lanceolate, acuminate, darker at the base; fruit apparently green, globose or slightly depressed, lightly 2-grooved, about 1 cm. in diameter.

Tipuani-Guanai, December, 1892.

1210, "BASSOVIA SOLANACEA," is more likely B. ANCEPS (R. & P.) Rusby.

1182, "NICOTIANA GLAUCA," is N. RUSBYI Britton, Bull. Torrey Club 26: 166.

157, "CESTRUM PARQUI," is C. MATHEWSII Dun. in DC. Prod. 13¹: 637.

631 and 1189, "CESTRUM STRIGILLATUM," are C. CALYGINUM Willd.; Schlecht. Linnaea 7: 64. 1832. They are the same as Rusby 815 and 817, Spruce 4154, Mathews 1974, and specimens collected by Pearce at Coroico.

401, "FLUCKIGERIA FRITSCHII." Dr. Fritsch finds that the name *Fluckigeria* is preoccupied, and substitutes the name KOHLER-ANTHUS FRITSCHII (Rusby) Fritsch, in E. & P. Nat. Pfl. Nachtr.

1510 and 1596, "BIGNONIA TECOMAEFLORA," I now think must be referred to B. VENUSTA Ker, Bot. Reg. *pl.* 249.

1161, "CRESCENTIA sp." must be referred to C. CUJETA L. Sp. Pl. 626.

1199, "RUELLIA HUMBOLDTIANA," must be written R. WILLDENOVIANA (Nees) Lindau.

1223, "RUELLIA AMOENA," is R. PEDUNCULOSA Nees.

1295, "RUELLIA ———," is R. PROXIMA Lindau, Bull. Herb. Boiss. 3: 365. 1895.

1354, omitted, is *RUELLIA BANGII* Rusby, Mem. Torrey Club 6: 102.

5, "*LIPPIA SCORODONOIDES*." Some specimens of *L. LYCIOIDES* Steud. Nom. ed. 2. 2: 54, may have been distributed with the other.

1223, omitted, is

***Salvia erythropoda* sp. nov.**

Stems shrubby, the branches slender, erect, reddish, strongly quadrangular, sulcate, above pilose, the hairs mostly reflexed, or somewhat tomentose; petioles 5 mm. long, disappearing upward, erect, rigid; blades 2-3.5 cm. long, 4-8 mm. broad, lance-oblong, acutish at the base, acute at the apex, obscurely serrate, rigid, pale-green and canescent both sides, especially underneath; flowers distantly disposed, bractless; pedicels 5 mm. long, stoutish; calyx tomentose, 1.25 cm. long, the tube campanulate, the lips 3 mm. long; corolla 3.5 cm. long, tomentose, scarlet; filament inflated, the anther blackish, 5 mm. long.

1595, omitted, is *UVIFERA MEISSNERIANA* Britton; Rusby, Bull. Torrey Club 27: 196.

222, "*PEPEROMIA HILARIANA*," is *P. SYLVATICA* C. DC.

330, "*PEPEROMIA FRAGRANS*," is *P. TALINIFOLIA LONGIPETIOLATA* C. DC.

331, "*PEPEROMIA TRINERVIS*," is *P. MELANOSTIGMA* Miq. Syst. 90.

340, "*PIPER BOLIVIANUM*," is *P. CARACASANUM* Bredem.; Link, Jahrb. Gewächsk. 1³: 61. 1820.

345, "*PIPER LECHLERIANUM*," is *P. GAUDICHAUDIANUM* Kunth, Linnaea 13: 639. 1839.

1640, omitted, is *SIPARUNA GUIANENSIS* Aubl. Pl. Gui. 2: 865.

1183, omitted, is *SIPARUNA HYPOGLAUCA* Perkins, Bot. Jahrb. 31: 691.

352, omitted, is *SIPARUNA SPECTABILIS* Perkins, Bot. Jahrb. 31: 686.

1177, omitted, is (?) *ENDLICHERA DYSODANTHIA* (R. & P.) Mez, Laur. 119.

841, omitted, as well as 1550 and 1552, but not 1646, is *OCOTEA ALBIDA* Mez & Rusby.

1646, distributed and published as part of *OCOTEA ALBIDA*, is

***Ocotea proboscidea* sp. nov.**

Glabrous; branchlets slender, deep-purple, drying blackish; petioles 6-12 mm. long; blades 5-10 cm. long, 15-30 mm. wide, lanceolate, at the base abruptly contracted and then narrowed

into the petiole, at the summit abruptly contracted and then narrowed into a long, lightly curved, acute acumination, coriaceous, drying pale-green above, brown beneath, the purple midrib and finely reticulate venation slender and prominent on both sides, especially so beneath; panicles solitary in the axils, mostly shorter than the leaves, peduncled, the peduncle, rachis and branches slender; staminate flowers only seen; bud globose, 1.5 mm. in diameter; flower 3-4 mm. broad; calyx-tube crateriform; perianth-segments thin, oval, a little longer than their stamens; filaments of first and second series very short, adnate to the base of the segments, those of the third series erect, with longer filaments, bearing two large, sessile, subglobose glands near the base; fourth series very small, lance-linear, thickish, obtuse; ovary wanting.

Species near *O. corymbosa* (Meissn.) Mez.

232 and 1584, distributed and published as "*EUPHORBIA GENICULATA* Ortega," are probably *E. HETEROPHYLLA* L.

803, "*URTICA SUBINCISA*," is *U. MAGELLANICA* Juss.; Poir.

Encyc. Suppl. 4: 223. 1833.

127, "*URTICA FLABELLATA*," is

Urtica Trianae sp. nov.

Pistillate plants only seen. Tall and slender, the stems very pale, sparsely prickly; petioles very slender, 0.5-2 cm. long, the blades 3-6 cm. long, 2-3 cm. broad, ovate, slightly cuneate, acute, thin, bright-green, sparsely prickly on the upper surface, flabellately 5-nerved, the nerves very slender, slightly prominent underneath; margin deeply serrate, the teeth lance-ovate, acuminate, scarcely acute; racemes pubescent, sessile, compound, 0.5-1.5 cm. long and more than half as thick; pedicels 1 mm. long; flowers 2 mm. long; akene 4 mm. long, 2.5 mm. broad, ovoid, turgid, blunt, smooth.

Vic. La. Paz, 1889. The same collected by *Triana* in New Grenada.

1237 and 1658, "*ETHERIUM RACEMOSUM*" (misprint for *Ethanium*), should be *RENEALMIA MICRANTHIA* K. Sch.

623, "*SISYRINCHIUM IRIDIFOLIUM*," is probably *S. LEUCANTHUM* Colla.

1624, published as "*HIPPEASTRUM MANDONII*," is

Hippeastrum soratense sp. nov.

Leaves minutely puberulent under a lens, 3-4 dm. long, 2-3 cm. broad, linear or a little broader above the middle, obtuse at the tip, strongly about 30-nerved, the nerves dark; scapes very stout, 2-3 dm. long, 1 cm. or more broad, as pressed; bracts 4-5 cm. long, lanceolate, 1.25-1.5 cm. broad at the base; pedicels about

6 cm. long, strongly curved; ovary about 1 cm. long, 5 mm. broad, oblong; perianth nearly 1 dm. long, the tube about 4 cm. long, 1 cm. broad at the summit, infundibular, the base very slender; stamens and style about equaling the perianth, the anthers 6-7 mm. long; style capitate, lobed, 1 mm. broad.

1379, "DIOSCOREA ———," is *D. MULTIFLORA* Griseb. in Mart. Fl. Bras. 3¹: 35.

1414, "PLATYMISCUM," is a misprint for *PLATYCERIUM*.

439, "ANEIMIA TOMENTOSA var.," is *A. BREUTELIANA* Presl.

1094, "PELLEA MARGINATA," is *NOTHOLAENA NIVEA* Desv. Jour. Bot. 3: 93.

135a and 994, omitted, are *THELOSCHISTES CHIRYSOPHTHALMUS* (L.) Norm.

Enumeration of Numbers Following 1769

RANUNCULACEAE

CLEMATIS GRAHAMI Benth. Pl. Hartw. 5. In fruit, May, 1894. (No. 2801.) The same collected by *Pearce* at Muña, 7,000 ft. Nearly *Mandon* 866, but the anthers are not the same.

CLEMATIS FLORIBUNDA Tr. & Pl. Ann. Sci. Nat. IV. 17: 9. 1862. (No. 2215.)

ANEMONE TRITERNATA Vahl. (No. 1923.) The same as 1041 and *Rusby* 1753.

RANUNCULUS PSYCHROPHILUS Wedd. Chlor. And. 2: 300. (No. 1886.)

RANUNCULUS PRAEMORSUS H.B.K. in DC. Syst. 1: 292. (No. 1916.) The same as *Mandon* 877.

DILLENIACEAE

DOLIOCARPUS SEMIDENTATUS Garcke, Linnæa 22: 48. 1849. A scrap without number. The same as *Hostman* 707, from Surinam, in Herb. Kew.

ANONACEAE

Guatteria oblongifolia sp. nov.

Ends of the branchlets and midrib underneath finely ferruginous; branchlets slender, terete, the internodes 2-3 cm. long; petioles 0.5-1 cm. long, stout; blades 1-1.5 dm. long, 4-6 cm. broad, regularly oblong, the base obtuse, the apex abruptly short-acuminate and obtusish, coriaceous, the veins lightly prominent above, more strongly so underneath, finely reticulate, the principal secondaries about 12 pairs; pedicels solitary in the axils, very stout,

thickened upward; perigone and stamens wanting in the specimens, the pistils oblong, about 5 mm. long, inclusive of the short, stout stipe; fruiting pedicels 2.5 cm. long, the stipes about 8 mm. long, the torus depressed-globose, nearly 1 cm. long, the fruits (mature?) oval, reticulate, nearly 1 cm. long. (No. 2232.)

Species near *G. oligocarpa*. Near to, if not the same as, *Jenman* 4071, and perhaps the same as *Rusby* 1422.

? TRIGYNAEA MATTHEWSII Benth. Jour. Linn. Soc. 5: 69. 1861. (No. 1952.) The specimens lack both flowers and fruit.

MENISPERMACEAE

CISSAMPELOS PAREIRA L. Sp. Pl. 1031. Coroico, Yungas, September 8, 1894. "In dry, gravelly and clayey soil, climbing to the height of ten feet; scarce." (No. 2422.)

CISSAMPELOS TROPAEOLIFOLIA DC. Syst. 1: 532. Coripata, Yungas, March 4, 1894. "A climber with yellowish-green flowers, growing in wet, clayey soil; scarce." (No. 2074.)

BERBERIDACEAE

BERBERIS DIVARICATA Rusby, Mem. Torrey Club 4: 203. (No. 1910.) It is the same as no. 863, but in fruit. The fruit (mature?) is 1 cm. long, 7 mm. broad, oval, tipped with a stout, conical style 2 mm. long and large thick stigma 2.5 mm. broad, borne on a stout pedicel, 1.5 to 2 cm. long, slightly thickened upward and subtended by persistent acuminate bracts, 7 mm. in length.

Berberis paucidentata sp. nov.

(Specimens in fruit.) Glabrous; branches elongated, slender, flexuous, terete, dark-brown, leafy; stipules crowded, blackish, rigid, 3 mm. long, broadly ovate, acuminate and acute; leaves 1-2 cm. long, including the narrow petiole-like base, oval-obovate, the apex spinose like the 1-3 pairs of teeth, very thick and rigid, strongly shining above, yellowish underneath, the margin thick, revolute, the venation very coarse and prominent, underneath reticulate; secondaries 4 pairs; fruiting pedicels 5 mm. long, stout, angled, puberulent, their basal bracts similar to the stipules, but smaller; fruit globose, about 8 mm. in diameter, blue, tipped with the globose black stigma, which is about 1 mm. broad. (No. 1828.)

Apparently the same as *Mandon* 862, which is in flower, the leaves little larger, the bracts dark-red, the sepals dark-red, 4-5 mm. long, ovate, acutish, rather rigid, the petals somewhat larger, and broader.

PAPAVERACEAE

- BOCCONIA INTEGRIFOLIA H.B.K. Nov. Gen. 1: 119. (No. 2669.)
The same as *Rusby 1161*.

CRUCIFERAE

- CARDAMINE OVATA CORYMBOSA Britton. (See no. 227.) (No. 1790.)
- CARDAMINE CHENOPODIFOLIA Pers. Syn. 2: 195. Uchimachi, Coroico, July 17, 1894. "A small plant, with greenish flowers, in cultivated ground." (No. 2347.) The same as *Ball's* specimen from Rio Janeiro.
- SISYMBRIUM HISPIDULUM (DC.) Tr. & Pl. Ann. Sci. Nat. IV. 17: 63. 1862. (*Turritis hispidula* DC. Syst. 2: 213.) (No. 1972.) The same as *Rusby 1208*.
- SISYMBRIUM LEPTOCARPUM Hook. & Arn. Bot. Misc. 3: 139. 1833. (No. 2503.) The same as *Rusby 1207*.
- SISYMBRIUM RUSBYI Britton, Bull. Torrey Club 16: 16. (No. 1896.) The same as *Rusby 1432*.

Matthewsia diffusa sp. nov.

Younger portions minutely puberulent and apparently glandular; stems at length 2 dm. or more long, prostrate, coarsely angled, sub-fleshy, much branched, leafy; petioles short and broad, clasping; leaves about 3 cm. long, 1.5 cm. broad, bipinnate, the pinnae about 10 pairs, their pinnules or segments 2 or 3 pairs, oblong, obtuse, entire, fleshy; pedicels 2-3 mm. long, stout, strongly angled; sepals persistent, 3 mm. long, ovate, obtuse, very slightly exceeded by the very thin white petals; capsules about 1 cm. long, exclusive of the stout, persistent style, which is 2 mm. long, lanceolate, falcate, tuberculate by the contained seeds, which are oval-orbicular, flattened, greenish, 1 mm. long. (No. 1967.)

- LEPIDIUM AFFINE Wedd. Ann. Sci. Nat. V. 1: 284. 1864. (No. 2802. This number and "2402" may have been transposed for this and a fern.) The same as *Mandon 927*.

CAPPARIDACEAE

- CLEOME GLANDULOSA R. & P.; DC. Prodr. 1: 238. Without number. The same as *Rusby 734*.

VIOLACEAE

- VIOLA PYGMAEA Juss.; Poir. Encyc. 8: 630. (No. 1872.)

BIXINEAE

COCHLOSPERMUM HIBISCIODES Kunth, Syn. Pl. Aeq. 3: 214.
(No. 1978.)

Xylosma ovata sp. nov.

(Specimens in fruit.) Younger portions of the branchlets and the veins underneath blackish-glandular, hairy, otherwise glabrous; branchlets stout, flexuous; petioles 5 mm. long, very stout; blades 7-15 cm. long, 4-6 cm. broad, ovate, the base rounded, the apex abruptly short-acuminate and obtuse, distantly and sub-obsoletely serrate, thickish, rigid; midrib and secondaries prominent underneath, the latter about 10 pairs; axillary fascicles about 5-7-fruited, the blackish bractlets 3-4 mm. long, subulate, thick and rigid, the pedicels filiform, 2.5-4 cm. long; fruit broadly ovoid, nearly 1 cm. long, the style very short and much broader, the stigmas 4, two-lobed, peltate, thick, nearly 1 mm. broad (in fruit); seed angularly ovoid, smooth, 4 mm. long. (No. 2382.)

"A shrub, about 6 ft. high, in wet, shaded forest-mould."
Sacramento, Yungas, August 14, 1894.

POLYGALACEAE

POLYGALA SPECTABILIS (DC. Prodr. 1: 331) var. minor Chodat, var. nov.

Flowers one-third smaller than in the type. (No. 2803 or 2403.)

POLYGALA ANGUSTIFOLIA H.B.K. Nov. Gen. 5: 405, *pl.* 511 (non Bennett). "Abundant in coca plantations and other cultivated grounds." Coripata, Yungas, March 20, 1894. Flowers white. (No. 2096.)

POLYGALA FORMOSA A. W. Bennett, Bull. Torrey Club 16: 19.
(No. 2674.) The same as *Rusby* 1908.

BREDEMEYERA FLORIBUNDA Willd. Ges. Naturf. Freunde Neue Schr. 3: 412. 1801. Coripata, Yungas, April 23, 1894. (No. 2143.) "A shrub, 15-20 feet high, rather thin and climbing, with greenish-yellow flowers. Rather scarce, in good rich mould, river bank." The same as *Pearce's* specimens from Chairo, 4,000-5,000 ft., April, 1866.

MONNINA BOLIVIENSIS A. W. Bennett, Bull. Torrey Club 16: 20.
(No. 1970.) The same as *Rusby* 1970.

MONNINA PARVIFLORA H.B.K. Nov. Gen. 5: 419. "Shrub about 6 feet high, with blue flowers, growing in clayey forest

mould." Coroico, September, 1894. (*Nos.* 2445 and 2673.)
The same as *no.* 292 and *Rusby* 1909 and 1913.

MONNINA STIPULATA Chodat, Bull. Herb. Boiss. 1: 354. (*No.* 2805.) This number and "2405" may have been transposed for this and an *Allophylus*.

MONNINA SALICIFOLIA R. & P. Syst. Veg. 172. (*No.* 2804.) Perhaps distributed as "2404," which is Apocynaceous; a *Justicia* was also distributed as "2404."

Monnina nigrescens sp. nov.

Shrubby, the branches erect, slender, elongated, channeled, tomentose, the internodes about 3-5 cm. long; leaves inserted by a narrow petiole-like base, 5-8 cm. long, 2-3 cm. broad, oblong or somewhat obovate, irregular, acute, entire, softly pubescent, especially underneath, thin and flaccid, drying blackish-green; veins coarse, not prominent, the secondaries about 6-8 pairs; racemes at length long-peduncled by the falling of the lower flowers, finally 1 dm. in length, at first dense, nearly 1 cm. broad; bracts about 3 mm. long, alternate; pedicels one fourth the length of the flowers, which are 3-4 mm. long; lateral outer sepals 1.5 mm. long, 1 mm. broad, oval, obtuse, the margin thin, white-fimbriate, the lower 2.5 mm. long; wings green, orbicular, strongly concave, 3.5 mm. broad, entire, strongly purplish-veined (about 3 pairs); keel green, nearly hemispherical, cleft about two fifths of the way, a blunt lobe about 0.5 mm. long on each side at about the middle; filaments about 1.5 mm. long, united to the middle, the anthers about 0.75 mm. long, ovate, obtuse, incurved; upper petals nearly equaling the filaments, white, puberulent at base, falcately oblong-ovate, the apex rounded; ovary about 0.75 mm. long, green, the style rather longer, its dilation commencing abruptly about one third of the way from the base and increasing to near the 2-lobed gray stigma; capsule nearly orbicular, 4 mm. broad, cordate with the lobes acute, brown with a green, strongly reticulate margin, the apex lightly emarginate. (*No.* 2835 or 2435.)

VOCHYSIACEAE

Trigonía echiteifolia sp. nov.

Younger portions, under sides of leaves, and inflorescence, including calyx, densely short-tomentose, slightly ferruginous; upper leaf surfaces minutely stellate, shining; branches elongated, slender, terete, deep red-purple, the internodes mostly 5-6 cm. long; stipules 8 mm. long, 2 mm. broad, linear, acuminate and acute; petioles 5-8 mm. long, rather slender; blades 5-8 cm. long, 2-5 cm. broad, inequilaterally ovate to obovate, slightly cordate, abruptly short-acuminate and acute, above bright-green, shining, the veins lightly impressed, underneath yellowish-white, the veins prominent, the

secondaries about 10 pairs, connected by the tertiaries; panicles axillary and terminal, loosely branched at the base, the dense branches 3-8 cm. long, 1.5-2 cm. broad, mostly floriferous to the base, the branchlets mostly 3-flowered, the bracts lance-linear, weak, mostly 3-4 mm. long, acute; largest sepal 6 mm. long, 2.5 mm. broad, ovate, obtuse, unguiculate, the exterior equal, 2 mm. broad, strongly unguiculate, the base sub-auriculate on one side, the interior 5 mm. long, 2 mm. broad, ovate, acute; larger petal 5 mm. long, the apex rounded and recurved, purple above, paler and pale-bearded below; lateral petals 5 mm. long, 1.5 mm. broad, inequilaterally oblanceolate with rounded apex, the claw white-bearded; inner petals 3 mm. long, very irregular, subsulcate; stamens 3 mm. long, the anthers 1 mm. long; pistil 3 mm. long, the ovary and base of style densely long white-pilose; glands very small. (*No.* 2812 or 2412.) Species near *T. villosa*.

***Trigonia floccosa* sp. nov.**

Branchlets elongated, slender, purplish, the younger portions white-floccose, the internodes mostly about 3-5 cm. long; stipules erect, 1 cm. long, lance-linear, attenuate and acute, canescent, deciduous; petioles 0.5-1 cm. long, stout, mostly recurved; blades 4-8 cm. long, 2-5 cm. broad, ovate to obovate, mostly inequilateral, rounded to sub-cordate at base, short-acuminate and very acute at the apex, entire, above dark-green, white-floccose, rugose with strongly impressed veins, underneath tomentellate and ferruginous, the venation prominent, reticulate, the secondaries about 8 pairs; inflorescence, including the outer surface of the calyx, densely short gray-tomentose; panicles 4-8 cm. long, 1-2 cm. broad, dense, except at the base, their branchlets mostly 2- or 3-flowered; bracts 5-8 mm. long, lance-ovate, attenuate and acute; pedicels very short, slender; anterior sepal 6 mm. long, 5 mm. broad, ovate, obtusish, strongly concave, sessile by a broad base, the exterior of about the same length, 3 mm. broad, slightly inequilateral, the inner 7 mm. long, 3 mm. broad, highly inequilateral and slightly falcate, blunt-pointed, paler; large petal 6 mm. long, pale above, yellowish with intruded folds at the middle, the broad sac purple and densely purple-bearded within, the apex rounded or lightly emarginate; anterior petals 5 mm. long, 1.5 mm. broad, oblanceolate or spatulate, the apex rounded, inequilateral and slightly falcate, the base bearded; the lateral very irregular, 4 mm. long, subsaccate, not bearded; stamens 3 mm. long, the larger anthers 1 mm. long; glands 4, united in pairs, red-purple, 1 mm. long, irregularly quadrangular, oval or orbicular; perfect stamens 5 or 6, unequal; pistil as long as the stamens, the ovary and base of the stout style densely long white-pilose.

“A climber with yellowish-white flowers. One plant found, in wet clay, at Coripata, May 14, 1894.” (*No.* 2191.)

Very near the last, but differing in the floccose and more rugose upper leaf-surfaces and young shoots, the unbranched panicles, larger flowers, coloration, more open sac and intruded folds of the large petal, and in the large, conspicuous glands.

CARYOPHYLLACEAE

SILENE GALLICA L. Sp. Pl. 417. (Nos. 1945 and 3001.) The same as *Rusby* 2476.

LYCHNIS ANDICOLA (Gill.) Britton, Bull. Torrey Club 16: 61. (No. 1863.) The same as *Rusby* 1179 and *Mandon* 989.

? *CERASTIUM VULGATUM* L. Fl. Suec. 2: 158. Specimen without number. The same form collected several times by *Ball*; also collected by *Gustav Bernoulli* in Guatemala (no. 191).

ALSINE NEMORUM (L.) Schreb. Spicil. 30. (No. 1840, and Coroico, September, 1894, no. 2443.) "Half climbing to 3 feet, in wet mould, in shade; flowers white." The same as *Rusby* 1184.

ARENARIA ALSINOIDES (Michx.) Rohrb. in Mart. Fl. Bras. 14²: 274. (No. 2053.) The same as *Rusby* 1187, 1188 and 1189.

PORTULACACEAE

CALANDRINIA ACAULIS H.B.K. Nov. Gen. 6: 78. (No. 1903.) Same as 917.

CALANDRINIA CAULESCENS H.B.K. Nov. Gen. 6: 78, pl. 526. (No. 1948.) The same as *Mandon* 1000 and *Rusby* 2601.

HYPERICACEAE

Hypericum stylosum sp. nov.

Glabrous, perennial, the root stout, branched or simple; stems 3-6 dm. high, solitary, erect from an ascending base, reddish-brown, the internodes 3-5 cm. long; branched from near the base, the branches elongated, slender, ascending at an angle of about 45°; leaves sessile, 1.5-2.5 cm. long, 4-8 mm. broad, oblong, the apex obtuse to rounded, obscurely 3-5-nerved, pale underneath, very thin; cymes elongated, loose except at the summit, the bracts linear, about 5 mm. long; pedicels 3-5 mm. long, sharply angled; sepals 5 mm. long, lanceolate, acuminate and acute, 1-nerved; petals oval, slightly exceeding the sepals; styles 5, distinct, stout, 3 mm. long, distinctly exceeding the stamens; capsule ovoid, 5 mm. long, 3 mm. broad.

"A small plant, from 10 inches upward, in height, the flowers yellow, in running water." Coripata, March 30, 1894. (No. 2107.)

CAOPIA CRASSA Rusby, Mem. Torrey Club 4: 204. (No. 2931.)

This is apparently the same as *Parker's* Demerara specimen, called "*C. guianensis*."

CAOPIA GLABRA (R. & P.) Kuntze, Rev. Gen. 59. (No. 2933.)

GUTTIFERAE

CLUSIA MULTIFLORA H.B.K. Nov. Gen. 5: 200. (No. 1975.)

CLUSIA RAMOSA Rusby, Mem. Torrey Club 4: 204. (No. 2371.)

CLUSIA sp. (No. 2411.)

SYMPHONIA GLOBULIFERA L. f. Suppl. 302. (No. 1954.) The same as *Rusby* 1853.

TERNSTROEMIACEAE

RUYSCHIA GUIANENSIS (Aubl.) Vitm. Summa Pl. 2: 250. 1789.

(*Souroubea guianensis* Aubl. Pl. Gui. 1: 244. 1775. = *Ruyschia Souroubea* Sw. Prodr. Veg. Ind. Occ. 50. 1788.) "In rich mould, forest shade, climbing to a height of 15 or 20 feet; scarce; flowers green." Coroico, Yungas, 5,500 ft., September 1, 1894. (No. 2401.) The same as *Hayes* 345.

?TERNSTROEMIA BRASILIENSIS Camb. in A. St. Hil. Fl. Bras. Mer.

1: 298. pl. 59. "Shrub about 8 ft. high, in rich forest mould, scarce." Near Coroico, Yungas, July 24, 1894. (No. 2360.) Also collected by *Pearce* at Santa Cruz, 7,000 ft., December, 1864. The leaves are larger and heavier, the calyx is lighter and the pod thinner than in *T. brasiliensis*.

Ternstroemia asymmetrica sp. nov.

Glabrous; branchlets short, stout but weak, widely spreading or recurved, gray, rough, very leafy toward the summit; leaves 5-8 cm. long, 2-3 cm. broad, oblanceolate to obovate and inequilateral, the apex slightly and bluntly acuminate, the base tapering into a very short, stout, purple, margined petiole, thick, the margin entire, thinly revolute; midrib sharply impressed above, very prominent, terete and purple underneath; venation imperceptible underneath, very perceptible above, the secondaries about 10 pairs; pedicels about 1 cm. long, stout, purple; sepals rotund-elliptical, 5 mm. long, thick, purple-brown, the petals scarcely longer, but broader; style scarcely any. (No. 1974.)

The same as no. 837, but not 838. Differs from *T. brasiliensis* in the inequilateral leaves, and the smaller flowers, with calyx of lighter texture. *Spruce* 4398 is in part the same.

MALVACEAE

- MALVASTRUM CAPITATUM (Cav.) Griseb. Goett. Abhand. 19: 90. 1874. (*Malva capitata* Cav. Diss. 5: 28. *pl.* 137, *f.* 1.) (Nos. 1897 and 2052.)
- MALVASTRUM RUSBYI Britton, Bull. Torrey Club 16: 64. (No. 2806 or 2406.)
- MALVASTRUM TRICUSPIDATUM (R. Br.) A. Gray, Pl. Wright. 1: 16. (*Malva tricuspidata* R. Br. in Ait. Hort. Kew. ed. 2. 4: 210.) "Plant 1-2 ft. high, with yellow flowers." Coripata, Yungas, March 28, 1894. (No. 2111.)
- MALVASTRUM PEDICULARIFOLIUM (Meyen) A. Gray, Bot. U. S. Expl. Exp. 1: 152. (*Sida pedicularifolia* Meyen, Reise 1: 460.) (No. 1964.)
- ANODA TRIANGULARIS DC. Prodr. 1: 459. "Plant 3-5 ft. high, common in coca plantations." Coripata, Yungas, March 4, 1894. (No. 2073.)
- ? GAYA GAUDICHAUDIANA A. St. Hil. Fl. Bras. Mer. 1: 192. (No. 2221.)
- SIDA RUFESCENS A. St. Hil. Fl. Bras. Mer. 1: 185. (No. 2807 or 2407.) The same as *Rusby* 1454, published as *S. urens* L.
- SIDA CORDIFOLIA L. Sp. Pl. 961. (No. 2211.) The same as *Rusby* 1456 and 1457.
- WISSADULA PERIPLOCIFOLIA (L.) Presl, Rel. Haenk. 2: 117, in obs. (*Sida periplocifolia* L. Sp. Pl. 684.) (No. 2809 or 2409.)
- WISSADULA HIRSUTA Presl, Rel. Haenk. 2: 118. (No. 2808.) The same as *Rusby* 1861.

Wissadula grandifolia Baker fil. sp. nov.

Allied to *W. hernandioides* Garcke and *W. Gymnanthemum* K. Sch. Stem erect, together with petioles and peduncles covered with a close dense rufescent or fuscous tomentum; leaves ovate-lanceolate, very acuminate, base distinctly cordate, palmately 7-9-nerved, margin entire, covered on both sides with a soft close tomentum, under side lighter-colored; larger leaves on specimen about 20 cm. long, 10.5 cm. broad, the smaller 8-12 cm. long, 3.5-8.5 cm. broad; petiole of larger leaves 10-11 cm. long; panicle leafy; pedicels not so long as in *W. hernandioides*; fruiting pedicels about 1.5 cm. long; sepals ovate or triangular, acute, pubescent externally; petals oblanceolate or narrowly obovate (when dried yellow), 8-9 mm. long; carpels 3-4, pointed, 7-8 mm. long, those examined 2-seeded; seeds about 2 mm. long.

This plant has ovate-lanceolate, long-acuminate leaves which are

about twice as long as broad. The pedicels are shorter than those of *W. hernandioides* Garcke. It is quite different from *W. decora* recently described by Mr. Spencer Moore (Trans. Linn. Soc. II. 4: 312) from Puerto Pachico; but may be identical with *W. gymnanthemum* K. Sch., a plant which I only know from description, but the petioles here are more than double the length given by Dr. Schumann (Fl. Bras. 12¹: 446). The lamina of the leaf also appears to be very much larger.

"In damp soil along roads. About 6 ft. high, with yellow flowers." Coroico, Yungas, August 2, 1894. (No. 2366.)

ABUTILON CRISPUM (L.) Medic. Malv. 29. (*Sida crispa* L. Sp. Pl. 685.) "About 5 ft. high, with yellow flowers, in wet, clayey soil. But one plant seen." Coripata, Yungas, April 27, 1894. (No. 2167.)

ABUTILON BENENSE (Britton) Baker fil. Jour. Bot. 31: 338. 1893. (*Sida benensis* Britton, Bull. Torrey Club 16: 153.) (No. 2621.) The same as *Rusby* 1455.

ABUTILON MOLLISSIMUM (Cav.) Sweet, Hort. Brit. ed. 2. 53. (*Sida mollissima* Cav. Diss. 2: 49. pl. 14, f. 1.) (No. 1980.) The same as *Mandon* 824.

Abutilon Bakeri sp. nov.

Branches erect, rather slender, terete, bright-green, finely stellate-hairy, and the younger portions sparsely pilose; stipules broadly ovate, acuminate and acute, nearly 1 cm. long, foliaceous; petioles 4-5 cm. long, stellate and pilose, stoutish; blades 4-12 cm. long, 3-8 cm. wide, 3-lobed, the larger slightly, the smaller strongly. cordate with a closed or narrow sinus, acuminate and acute, both at the apex and at the lobes, when the latter are well developed, irregularly and unequally dentate with short, broad, blunt teeth; thin, deep-green; primaries 5-7, the lower one or two pairs declined, prominent on both surfaces, connected by the secondaries and these by the tertiaries; upper surface scabrous, the hairs slightly stellate, the lower velvety; flowers about 5, semi-corymbose at the summits of the branches, the pedicels 5-7 cm. long, slender, stellate and pilose like the calyx, which is 2.5 cm. long, divided three-fourths of the way, the lobes ovate, long-acuminate and acute; corolla 3-4 cm. long, yellow, strongly and coarsely veined; stamens slightly exserted, a little shorter than the 10 styles, the stigmas large; fruit 2 cm. long, 2.5 cm. broad, blackish, pilose, strongly beaked.

Allied to *A. sylvaticum* K. Schum. and *A. macrophyllum* St. Hil. & Naud.

"Six to 10 ft. high, abundant in wet soil, the flowers yellow."
Near Coroico, July 22, 1894. (*No.* 2357.)

SPHAERALCEA MANDONI Baker fil. Jour. Bot. 31: 364. 1893.
(*No.* 1927.) The same as *Mandon* 808.

PAVONIA COMMUNIS A. St. Hil. Fl. Bras. Mer. 1: 224. "A yellow-flowered shrub, 8-10 ft. high, common in dry gravelly slate."

Coripata, Yungas, February 28, 1892. (*Nos.* 2067 and 1979.)

Bombax (*Pachiropsis*) **Rusbyi** Baker fil. sp. nov.

Probably a tree; young branches almost glabrous. Leaflets 3-7, ovate or oblong-ovate, coriaceous, base subcordate, apex obtuse or subobtuse, more rarely subacute, penninerved, generally with 8-10 lateral nerves, glabrous on both sides, distinctly petiolulate, lamina 6-16 cm. long, 6.5-9.5 cm. broad, petiolule 1.5-2 cm. long, petiole 11-13 cm. long, apex expanded into a disk; peduncle thick, about 3 cm. long; calyx cupuliform, subentire with about 10 glands at the base; petals strap-shaped, externally olive-colored or ferruginous-tomentellous, 10-12 cm. long; staminal column glabrous, 2-2.5 cm. long; free filaments 4-6 cm. long; anthers hippocrepiform, at least in the dried state; capsule about 15 cm. long; seeds immersed in light-brown wool.

Yungas, 6,000 ft., 1885. First collected by *Dr. H. H. Rusby* (*no.* 1928). *Bang* (*no.* 2282a). This is the plant referred to in Bull. Torrey Club. 16: 154 (1889) as "*Bombax* ?." It is allied to *Bombax longiflorum* K. Schum. and *B. cyathophorum* K. Schum., the staminal tube being glabrous and the leaflets also glabrous. I have much pleasure in dedicating this species to the discoverer, Dr. H. H. Rusby.

[Mr. Bang's specimens of this number were accompanied by the following note: "More flowers and fruits to be sent next. The leaves all dropped off now, and buds already coming out." This note doubtless refers to the coriaceous leaves, which fall just as the next year's growth commences. The specimens were followed, according to promise, by others, but the latter were evidently taken from a different tree and present marked differences. They agree with *Rusby* 1928, the mature leaflets being 6-11 cm. long by 6-8 cm. broad, the most of them rotund-ovate. The pedicels are about 3 cm. long, the calyx 1.75 cm. long by 2.25 cm. broad (as pressed). Stamen-column 3-3.5 cm. long; free portions of stamens 7-8 cm. long. The original 2282 showed the following proportions: leaflets 12-18 cm. long, 8-10 cm. broad and less strongly cordate; pedicels 2.75-3 cm. long, calyx 2-2.5 cm. long by 2 cm. broad (as pressed); stamen-column 3.5 cm. long, free portions of stamens 1 dm. long. The form of leaves and calyx-tube and relation of stamens (free portion) to tube are so markedly different that I am inclined to think they represent two species. I, therefore, call the first and larger-leaved collection 2282, the second 2282a. H. H. R.]

? CEIBA MANDONI Britten & Baker fil. Jour. Bot. 34: 175. 1896.

This has but five leaflets. (No. 1949.)

STERCULIACEAE

Helicteres amplifolia sp. nov.

Shortly stellate-tomentellate and ferruginous; branches elongated, stoutish, flexuous, angled, the internodes mostly about 4-7 cm. long; stipules 0.75-1 cm. long, abruptly linear from a broad base; petioles 2-4 cm. long, stout, sub-terete; blades 1-1.5 dm. long, 0.75-1.25 dm. broad, ovate, strongly cordate, abruptly short-pointed and mostly obtuse, doubly serrate with short, broad teeth, thin, deep-green and sparsely stellate above, gray underneath with the rather coarse venation somewhat prominent, the principal secondaries about 5 pairs, with one or two smaller basal pairs; pedicels very short and stout; calyx-tube 1 cm. long, 8 mm. broad (as pressed), campanulate with the mouth slightly contracted, the lobes 1 cm. long, oval, the base slightly narrower, acutish, 1-nerved; petals deep-red, exceeding the calyx by about 5 mm., the limb oval, obtuse; stamen-column exerted nearly 7 cm.; anthers 10, 3-4 mm. long; style 6-7 mm. long; fruit not seen. (No. 2648.) Species near *H. barnensis*.

MELOCHIA POLYSTACHYA (H.B.K.) Tr. & Pl. Ann. Sci. Nat.

IV. 17: 341. 1862. (*Mougeotia polystachya* H.B.K. Nov.

Gen. 5: 328.) (No. 2810 or 2410.) The same collected by Pearce at Coroico, 3,000-4,000 ft., December, 1865. Burchell "6693-2" may be the same.

? MELOCHIA NODIFLORA Sw. Prodr. Veg. Ind. Occ. 97. "4-6 ft. high, with light-red flowers, in wet cultivated ground." Corripata, Yungas, April 16, 1894. (No. 2132.)

Melochia yungasensis sp. nov.

Pubescence minute; root vertical, stout, woody, little-branched; stems numerous, erect or ascending from a branched crown, slender, 3-5 dm. long, nearly simple, the internodes about 2 cm. long, angled, reddish-brown; stipules 2-3 mm. long, lance-ovate, acute; petioles 1-1.5 cm. long, slender; blades 2.5-4 cm. long, 2-3 cm. broad, ovate, somewhat inequilateral, cordate, acuminate and acute, coarsely and irregularly serrate, thin, bright-green above, pale and the venation prominent underneath, the secondaries about six pairs, at an angle of about 45°, reddish; flowers few, on slender pedicels shorter than themselves; calyx 4 mm. long, divided two-thirds to the base, the lobes ovate, acuminate, acute; corolla 6 mm. long, the petals very short-clawed; filaments lightly coherent to near the summit, broad, membranaceous, shining, brown, a little more than 1 mm. long; anthers 1 mm. long, broadly ovate, usually flattened;

ovary sub-globular, 5-lobed, pilose, 2 mm. long; styles 5, distinct, a little more than 1 mm. long, slender, the summits recurved; stigma small.

Yungas. (*No.* 1977.)

Guazuma coriacea sp. nov.

Branchlets slender, ascending, terete, dark purple-brown, puberulent at the apex; petioles about 1 cm. long, stout; blades 5–8 cm. long, 2–4 cm. broad, narrowly ovate, the base lightly cordate, the apex long-acuminate and acute, the margin finely crenate-serate, thickish and rigid, above glabrous, underneath puberulent, especially on the veins; venation slightly prominent above, more so underneath, the secondaries about six pairs, connecting near the margin, the veins reticulate; pedicels (the fruiting only seen) stout, 1–1.5 cm. long; fruit spherical, or when mature very slightly depressed, nearly 1.5 cm. in diameter at maturity, blackish-brown, very strongly tuberculate, the tubercles about 2 mm. broad, the basal about half as large, strongly wrinkled, bluntly short-beaked; seeds glabrous, brown, 1–2 cm. long, angular. (*No.* 2217.) Near *Rusby* 1859.

? *AYENIA TOMENTOSA* L. Syst. ed. 10. 1247. "Rather scarce on dry, clayey hillsides. Flowers dark-brown." Coripata, Yungas, March 28, 1894. (*No.* 2115.) I believe that a number of distinct species will be found included under this name, and this may hereafter be separated therefrom.

CHAETAEA HIRSUTA (R. & P.) Rusby, Mem. Torrey Club 3³: 10. (*No.* 2205.)

? *THOMASIA* sp. "Rather scarce in dry, clayey, grassy soil. Flowers light red-rose." Coripata, Yungas, April 27, 1894. (*No.* 2164.) The specimens as they reach me are without flowers and fruit, and even a generic determination is not possible.

TILIACEAE

HELIOCARPUS POPAYANENSIS H.B.K. Nov. Gen. 5: 341. "A tree 20–25 ft. high and not very stout, with yellow flowers, growing in wet mould and clay. The bark is very strong and is used for binding together the frame-work of houses. Abundant." Calapampa. near Coroico, July 2, 1894. (*No.* 2305.)

Luehea tomentella sp. nov.

Branchlets short, stout, flexuous, blackish, terete, the younger portions thinly, the under leaf-surfaces, petioles, and inflorescence, including both surfaces of the involucre and outer surface of sepals,

densely ferruginous-tomentose; stipules caducous, nearly 1 cm. long, ovate, obtuse, concave, rigid and thick, bluntly carinate; petioles 0.5-1 cm. long, very stout; blades 7-10 cm. long, 3-6 cm. broad, ovate, inequilateral, rounded at the base, acute or acutish at the apex, serrate with small acute teeth, strongly 3-ribbed, the other secondaries 4 on one side, 3 on the other, connected by the tertiaries; thick and rigid, minutely scabrous and the venation obscure above, the latter prominent underneath; panicles terminal, broad (2 dm.), the branchlets and pedicels erect; bracts caducous, 1.5 cm. long, oval or obovate; pedicels at length 1-1.5 or even 2 cm. long, twice as stout as their branchlets, strongly bluntly quadrangular; buds globose-ovoid, 1 cm. or more long, strongly bluntly 10-costate; involucre bracts 9, 2-2.5 cm. long, 5-6 mm. broad, lanceolate, narrowed at the base, acute, thick, valvate-reduplicate and internally carinate in the bud; sepals 5, valvate, 3-3.5 cm. long, 1.5 cm. broad, ovate, obtusish, strongly 3-nerved, within purple and nearly glabrous; petals 5, 4 cm. long, very broadly obovate, shortly and stoutly unguiculate, purple, darker and pubescent at the base, strongly veined; stamens to 2 cm. long, white-pilose, in 5 phalanges, each phalange bearing externally, at its base, a scale 1 cm. long, 5 mm. broad at the base, divided two-thirds of the way into filiform pilose divisions similar to the filaments; anthers reniform or semicircular, nearly 2 mm. long from base to base; ovary oblong, 8 mm. long, pilose; style 8 mm. long, 2-3 mm. thick, slightly larger and strongly angled above, pilose at the base; stigma 5 mm. broad, thick and fleshy, strongly umbilicate at the base, 5-lobed, the lobes irregularly crumpled and toothed; fruit unknown.

"A stout tree 40 ft. high, with white flowers, abundant in gravel and clay." Coripata, Yungas, June 24, 1894. (*No.* 2295.) Probably identical with *Burchell* 4778.

MALPIGHIACEAE

Bunchosia pilocarpa sp. nov.

Branches stout, terete, glabrous, dilated at the nodes; leaves glabrous, the petioles about 1 cm. long, stout, margined, the blades 1-2 dm. long, 4-8 cm. broad, oval to obovate, the base blunt, the apex abruptly very short-acuminate, obtuse, coriaceous but rather thin, glabrous, rather pale, venation slender, lightly prominent underneath, reticulate, the midrib lightly impressed above, principal secondaries about 10 pairs; racemes (the fruiting only seen) solitary in the axils, simple, 8-15 cm. long, strongly peduncled, loose, the pedicels stout, 0.5-1 cm. long, articulated and strongly glandular-tuberculate a little below the middle; calyx 7 mm. broad, broadly cup-shaped, the glands large, obovate, of the same color as the calyx, recurved-spreading at the apex; fruit light-gray, densely

short-tomentose, globular, or slightly narrowed above, strongly 2-grooved, the apex short-truncate, tipped with the stout style. (*No.* 2249.)

***Heteropteris ovalifolia* sp. nov.**

Glabrous, except the finely ferruginous inflorescence; branches stout, terete, purplish; petioles 5 mm. long, very stout, the base dilated, blackish-brown; blades 5–8 cm. long, 4–5 cm. broad, oval-elliptical, coriaceous, thick, coarsely reticulate, the terete veins prominent below; panicles strongly peduncled, ample, pyramidal, open, the floral leaves very small, recurved, ferruginous like the rest of the inflorescence; flowers crowded on the short branchlets, the pedicels stout, 2–5 mm. long; calyx sub-hemispherical, 4 mm. broad, the sepals blunt or rounded at the apex, the glands black, nearly 2 mm. long, broadly elliptical; limb of the petals very broadly elliptical, 3 mm. long, the claw slender, 2 mm. long; stamens nearly equaling the style, exceeding the calyx by 1–2 mm., the anthers large and broad; fruit 2.5 cm. long, the seminiferous portion about 4 mm. long and broad, strongly concave at the base, unappendaged, strongly nerved, pubescent, the wing 1 cm. broad a little above the middle, 7 mm. broad at the narrowest portion, which is about 4 mm. above the base, strongly nerved.

“A low climber with yellow flowers, in gravel and clay.”
Coroico, September, 1894. (*No.* 2458.)

STIGMAPHYLLON TOMENTOSUM A. Juss. in A. St. Hil. Fl. Bras.
Mer. 3: 53. (*No.* 2296.)

BANISTERIA ARGENTEA (H.B.K.) Spreng.; A. Juss. Arch.
Mus. Par. 3: 393. 1843. (*Heteropteris argentea* H.B.K.
Nov. Gen. 5: 164.) (*No.* 2061.)

? BANISTERIA OXYCLADA A. Juss. Arch. Mus. Par. 3: 396.
1843. (*No.* 2813.)

BANISTERIA SPRUCEANA Griseb. in Murt. Flor. Bras. 12¹: 45.

“A climber on the ground, with yellow flowers, in dry, gravelly and clayey soil.” Coroico, September, 1894. (*No.* 2457.) The same as *Rusby* 515.

***Banisteria Pearcei* sp. nov.**

Glabrous, except the inflorescence; branchlets gray, densely leafy; petioles 3 mm. long, stout, margined, brown; blades 4–8 cm. long, 1.25–2.5 cm. broad, lance-oblong, the base acute to acuminate, the summit abruptly acuminate, acute; coriaceous, gray-green, lustrous, venation slender and lightly prominent both sides, reticulate, the secondaries about 9, strongly ascending, connecting close to the margin; inflorescence sparse, lightly ferruginous; peduncles a little exceeding the petioles, the few seen about 5–

flowered; mature buds nearly globular, 4 mm. long, the nearly circular calyx-lobes almost half its length, the broadly oval glands about half the length of the calyx; petals (apparently yellow), including the slender claw, about 6 mm. long, 5 mm. wide, lacerate; fruiting pedicels slender, terete, 1.5 cm. long; fruit 15–22 mm. long, 6–9 mm. wide; base of wing 3–4 mm. broad, the broadest portion about two thirds of the way from base to summit; glands broadly oval, about 1.5 mm. long. (*No. 2811.*)

The same collected by *Pearce* at Chailla, 4,000 to 5,000 ft., May, 1866, and deposited in Herb. Kew under the name *B. Spruceana*.

***Banisteria sanguinea* sp. nov.**

Branches stoutish, terete, red-purple, the younger portions, like the peduncles, pedicels and lower leaf-surfaces ferruginous-tomentose; petioles 0.5–1 cm. long, stout, sub-terete, and, like the midribs underneath, red-purple; blades 5–9 cm. long, 3–4 cm. broad, oval-ovate, rounded at the base, obtuse at the apex, entire, thickish, deep-green and glabrous above, with the finely reticulate venation strongly impressed, underneath ferruginous, with the venation prominent; panicles ample, the branches subtended by reduced leaves, symmetrical, lax; pedicels 0.5–1 cm. long, slender, erect, slightly thickened upward, bearing a pair of purple, oblong bracts about 1.5 mm. in length; calyx 3 mm. long, 4 mm. broad, the ovate, obtuse sepals brown, the 8 black oval glands two-thirds as long; petals bright-crimson, 6 mm. long, limb slightly longer than the claw, strongly reflexed, the limb oval or obovate with rounded apex, plane, lightly auriculate, the margin slightly crisped; filaments bright-crimson, 2.5 mm. long, erect, slightly tapering upward; anthers gray, 1 mm. long, obtuse; ovaries 2 mm. long, ferruginous-pilose; style bright-crimson, 2 mm. long, not oblique, the stigma scarcely distinguishable.

“In wet forest-mould, climbing high upon trees, the flower light-red; scarce.” *Coripata*, Yungas, May 15, 1894. (*No. 2192.*)

***Banisteria cinerea* sp. nov.**

Branches much elongated, slender, terete, the youngest portions hoary; petioles 1 cm. long, stout, flat or shallowly grooved upon the upper side, the two ellipsoidal glands at the junction with the blade, 2 mm. long, black; blades 0.8–1.2 dm. long, 3.5–6 cm. broad, oblong or oval, blunt at the base, abruptly short-acuminate and acute at the apex, entire, coriaceous, above dark-green, drying brown, glabrous and shining, the midrib grooved, underneath silvery-gray with an exceedingly fine tomentum, but not shining, the stout, terete midrib and 7 or 8 pairs of slender secondaries prominent, the latter connected by the tertiaries and these with one another in a coarse reticulation; flowers panicked, racemed upon the

branches; panicles axillary, elongated, narrow, lax, long-peduncled, the branches subtended by very small lanceolate leaves; pedicels 4-10 mm. long, slender, subtended by lanceolate, acute bracts about 2 mm. long; calyx 2.5 mm. long, 4 mm. broad, closely subtending the globose-obovoid bud, truncate at the base, the glands nearly 1.5 mm. long, nearly as broad, the sepals broadly ovate, rounded at the apex, green; claw of petal 1.5 mm. long; limb 6 or 7 mm. long, orbicular, fringed, costate below; filaments reddish, the longer 2.25 mm. long, flattened and connate below; anthers 1 mm. long, the connective at the back expanded into a large black disk much broader than the thecae; ovary 1 mm. long, purple, obtusely pointed, the crest conspicuous; style 2 mm. long, straight; stigma distinct, whitish, truncate.

"In wet forest-mould, Unduavi; a low climber, the flowers yellow." (No. 2489.)

TETRAPTERIS PAPYRACEA Tr. & Pl. Ann. Sci. Nat. IV. 18: 334. 1862. "Climbing to the height of 8 ft., in wet forest-mould. Flowers yellow." Road to La Paz, from Yungas, September, 1894. (No. 2481.)

GERANIACEAE

GERANIUM BANGII Hieron. Bot. Jahrb. 21: 314. 1895. (No. 1837.) The same as no. 788.

Tropaeolum infundibularum sp. nov.

Glabrous; stems coarsely angled, the internodes mostly 4-5 cm. long; petioles 5-8 cm. long, slender, twining; blades 6-8 cm. long, and about as broad, triangular-ovate, the base truncate and lightly concave, abruptly short-acuminate and acute at the apex, entire or sinuately 1- or 2-lobed near the base, pale underneath, thin but semi-rigid, palmately 5-nerved, or mostly with an additional pair forming the margin near the petiole, the venation coarse, rather prominent underneath; peduncles 2 dm. or more long, very stout, tapering upward; spur 3 cm. long, 7 mm. broad at the base, as pressed, the terminal 1 cm. dilated, blunt, nerved, darker; remaining portion of the orange-colored corolla nearly 1.5 cm. long, 1.2 cm. broad, the lobes about 7 mm. long, broadly ovate, obtuse, bluish; fruit not seen.

"Abundant in wet forest-mould, climbing very high upon trees, the flowers rose and green." Uchimachi, Yungas, July 20, 1894. (No. 2354.)

OXALIS CORNICULATA L. Sp. Pl. 435. "Growing in wet clay, the yellow flowers open only in bright sunshine." Coripata, Yungas, April 15, 1894. (No. 2128.)

OXALIS NUBIGENA Walp. Nov. Act. Nat. Cur. 19: Suppl. 1: 320. 1843.

OXALIS PUBESCENS H.B.K. Nov. Gen. 5: 240. (No. 2814 or 2414.) The same as *Mandon* 851, but I think not the same as *Rusby* 748 and 751, published under this name.

OXALIS BOLIVIANA Britton, Bull. Torrey Club 16: 159. "Growing in wet mould." Coroico, September, 1894. (No. 2449.) The same as *Rusby* 756.

OXALIS BARRELIENI L. Sp. Pl. ed. 2. 624. (No. 2501.)

OXALIS DENDROIDES H.B.K. Nov. Gen. 5: 250. (No. 2675.) The same as *Rusby* 856.

Oxalis Bangii sp. nov.

Ferruginous-pilose; plants densely tufted, sub-acaulescent; stipules 4-5 mm. long, 2 mm. broad, ovate, inequilateral, acuminate, brown and scarious, ciliate; petioles 2-3 cm. long, erect; leaflets 5-7 mm. long and broad, triangular-ovate, obcordate with a broad, shallow sinus, bright-green and slightly pilose above, purple and long-pilose underneath; peduncles two- or three-flowered in my specimens, nearly as long as the petioles; bracts lance-ovate and acuminate, 2-3 mm. long, of similar appearance to the stipules; pedicels 0.5-1 cm. long, pilose, weak but stoutish; calyx about 5 mm. long, lobed two-thirds of the way, the lobes oblong-ovate, obtuse; corolla about 1.5 cm. long, yellow. (No. 2502.)

RUTACEAE

CITRUS AURANTIUM L. Sp. Pl. 783. Specimens taken from a "tree 20 to 30 ft. high, which gives several thousand fruits a year. The time for fruit is May, June and July, but in cold places like this, there are fruits up to November, on the same tree." Calapampa, July 4, 1894. (No. 2309.)

CITRUS VULGARIS Risso, Ann. Mus. Par. 20: 190. 1813. "Much smaller than the common tree; the fruit also much smaller, with a bitter taste. Local name 'Mandarinos.'" Coroico, September 4, 1894. (No. 2412.)

ZANTHOXYLUM PUBESCENS St. Hil. & Tul. Ann. Sci. Nat. II. 17: 141. "A shrub, 6 ft. high, growing in shade, in gravel and clay; scarce." (No. 2177.) The same as no. 462.

SIMARUBACEAE

BENJAMINA sp. "A shrub about 6 ft. high in dry gravelly soil along road." Coroico, September, 1894. (No. 2473.)

BRUNELLIA RHIOIDES Rusby, *ante*, page 310. (*No.* 1991.) The same as *no.* 839.

BURSERACEAE

Bursera amplifolia sp. nov.

Glabrous; branchlets stoutish, straight; petioles 3–5 cm. long, stout, sub-triangular in section; leaflets one or two pairs, when two, separated by about 3 cm.; petiolules about 3 mm. long, very stout, the terminal about 1.5 cm. long; blades 7–12 cm. long, 3–6 cm. broad, the lower smaller, inequilaterally ovate, rounded at the base, short-pointed and obtuse at the apex, entire, thickish and rigid, bright-green; venation obscure above, somewhat prominent underneath, the secondaries about 12–16 very unequal and irregular pairs, slender, somewhat crooked; panicles axillary, on slender spreading peduncles about 2–3 cm. long, the flowering portion about 4 cm. long, and nearly as broad, loose, the bracts 1–3 mm. long, ovate, thickish, green; buds 2.5 mm. long and broad, ovate, acutish; calyx saucer-shaped, closely investing the corolla, the lobes sub-semicircular; petals 3 mm. long, 1.5 mm. broad, ovate, obtuse; stamens 2 mm. long, the filament a little longer than the anther; disk large, flat, fleshy, white, irregularly many lobed; ovary ovoid, 1 mm. long, the style short, the stigma lightly 3-lobed.

“A tree, 15 feet in height, with yellow flowers, growing in sandy and gravelly soil, near the river.” Coroico, August 4, 1894. (*No.* 2370.)

MELIACEAE

GUAREA OVALIS Rusby, Mem. Torrey Club 4: 205.

Fruiting specimens of what appears to be this species are received under the number 2428 (perhaps distributed as *no.* 2828). The fruiting panicles are very lax and slender, 2 dm. or more long and about 7 cm. broad, on very stout peduncles 3–6 cm. long. The pedicels are about 5 mm. long, very stout, upwardly thickened. The fruit is fig-shaped, about 1 cm. broad, bright-brown, light-verrucose. The specimens are gray- or yellow-pubescent throughout, especially the veins underneath; the upper leaf-surfaces very finely puberulent.

“A single tree found, about 20 ft. high, in forest-shade.” Coroico, September 12, 1894.

Trichilia Harmsii sp. nov.

Glabrous, or the lower leaf-surfaces minutely tuberculate, as though strigose with the hairs aborted; branchlets stout, verrucose with the conspicuous, vertically elongated lenticels; petioles about 5 cm. long, stout, channeled, abruptly enlarged at the base; rachis

1-1.5 dm. long, the leaflets 4 or 5 pairs, sub-opposite, their petioles 2-3 mm. long, very stout, the terminal 1 cm. long; blades 6-12 cm. long, 3-4 cm. broad, the upper lanceolate, the lower ovate, mostly inequilateral, rounded at the base, short-acuminate and obtuse at the apex, entire, coriaceous, dark-green, the venation inconspicuous on both sides, except the midrib, which is prominent beneath and in a groove on the upper surface; budding panicles 6-10 cm. long, 3-4 cm. broad, very lax, the rachis strongly angled; pedicels very short and stout; buds 1.5-2 mm. long, rounded at the apex; calyx saucer-shaped, 1.5 mm. broad, closely investing the base of the corolla, the lobes broadly ovate; petals 1.5 mm. long, 1 mm. broad, oval; stamens 1.5 mm. long, the tube completely divided, densely white-pilose, the segments entire at the apex; anther nearly a third the length of the filament; ovary 1 mm. long and broad, ovate; style short and thick; stigma large, capitate; disk saucer-shaped, closely enclosing the base of the ovary. (No. 2660.) Species dedicated to Dr. H. Harms, who has kindly indicated its affinity to *T. multiflora*.

ILICINEAE

? *ILEX AMYGDALIFOLIA* Rusby, Mem. Torrey Club 3³: 14. "A tree 20-25 ft. high, growing in black forest-mould, on the mountain side." Above Coripata, Yungas, April 18, 1894. (No. 2129.) The same as specimens collected by *Spruce* at Tarapota.

CELASTRACEAE

? *MAYTENUS VERTICILLATA* (R. & P.) DC. Prodr. 2: 10. (*Celastrus verticillatus* R. & P. Fl. Per. 3: 6.) (No. 1774.)

MAYTENUS sp., apparently undescribed, but only empty capsules remain. (No. 1928.)

Salacia rotundifolia sp. nov.

Glabrous; branches slender, the old portions dark-purple and strongly verrucose, the younger portions green and smooth; petioles nearly 1 cm. long, stoutish, broadly channeled above; blades 5-6 cm. long, 3.5-5.5 cm. broad, oval to rotund, obtuse at the base, very abruptly, very shortly and obtusely pointed at the apex, obscurely sinuate, thickish, pale-green, the venation very slightly prominent above, more so underneath, the secondaries about 10 pairs, the veins coarsely and angularly reticulate; peduncles of the cymes 1.5-2 cm. long; cymes 3-4 cm. broad, loose, much branched, the branches mostly at right angles, bracted with very small, ovate bracts; pedicels 1-1.5 mm. long, very stout; calyx 2 mm. broad, very shallow, lobed half-way or more, the lobes very broad, rounded, the sinuses acute; petals 1.5 mm. long, nearly rotund, thick;

stamens a little exceeding the pistil, the filaments very broad at the base, fleshy, the anthers very small; style cylindrical, short, half as thick as the ovary.

"Flowers green. Climbing very high on trees in dry forest-mould." Coroico, September 3, 1894. (*No.* 2407.)

SALACIA sp., apparently undescribed, but the specimens are in bud only. "Grows in dry mould and climbs to a height of 20 feet. Flowers greenish-yellow." Coroico, September, 1894. (*No.* 2456.)

RHAMNACEAE

RHAMNUS BOLIVIANA Rusby, Mem. Torrey Club 3³: 15. (*No.* 2522.)

Rhamnus citrifolia sp. nov.

Gray-tomentellate except the upper leaf-surfaces, which are bright-green, drying yellowish, and sparsely puberulent; stipules caducous, 5 mm. long, lance-linear, finely attenuate; petioles 1-1.5 cm. long, stout, channeled, underneath strongly wrinkled or pseudocostate; blades 6-10 cm. long, 3-5 cm. broad, oblong to oval or slightly obovate, rounded at the base, abruptly very short-pointed and mostly obtuse at the apex, finely and irregularly short-serrate, becoming entire toward the base, thickish and rigid, the midrib lightly channeled above; venation slender but prominent underneath, the secondaries 10 or 11 pairs; racemes sessile or short-peduncled, the bracts inconspicuous; pedicels 3-5 mm. long, spreading or recurved; calyx-tube regularly hemispherical, 2.5-3 mm. long, dark, the lobes of about the same length, much lighter, broadly triangular-ovate, acute; petals 1 mm. long, 1.5 mm. broad, concave, the margins incurved to partly surround the stamen, which is shorter, the anther small, on a filament longer than itself; ovary densely white-pilose, 1 mm. long, 1.5 mm. broad; style nearly 1 mm. long, 0.5 mm. thick. (*No.* 1891.)

SAPINDACEAE

(Contributed, except *Llagunoa*, by Dr. L. Radlkofer)

SERJANIA RETICULATA Camb. in A. St Hil. Fl. Bras. Mer. 1: 359. *forma genuina.* (*No.* 2816.) The same as *no.* 413. (Two plants were distributed under *no.* 2816.)

SERJANIA RUBICULIS Benth.; Radlk. Monog. Serj. 254. (*No.* 2622.)

SERJANIA OVALIFOLIA Radlk. quodammoxo recedens foliolis subintegerrimis, impunctatis, epidermide mucigera. (Specimen without number.)

SERJANIA LETHALIS St. Hil. Pl. Rem. Brés. 1: 206, 235.

"Growing in mould and yellow clay, and climbing to a height of 30 feet or more. Flowers white." Coroico, August 12, 1894.

(No. 2377.)

SERJANIA SPHAEROCOCCA Radlk. Monog. Serj. 153. (No. 2623.)

SERJANIA AREOLATA Radlk. Monog. Serj. Suppl. n. 14. "Plant grows in gravel, along roadside, and climbs to a height of about 8 feet. Flowers yellow." Coroico, September, 1894. (No.

2444.)

SERJANIA GRANDICEPS Radlk. Bull. Torrey Club 25: 336. 1898.

(Specimens without number.)

CARDIOSPERMUM HALICACABUM MICROCARPUM Bl. "A small plant climbing to a height of 4-6 feet, in cultivated ground. Flowers white." Coripata, Yungas, March 28, 1894. (No.

2110.)

PAULLINIA DASYSTACHYA GENUINA Radlk. Bull. Torrey Club 25:

337. 1898. (No. 2815 or 2415.)

ALLOPHYLUS PUNCTATUS (Poepp.) Radlk. Mem. Torrey Club

6: 21. (*Schmidelia punctata* Poepp. Nov. Gen. et Sp. 3:

38. pl. 244.) "A tree about 10 ft. high, growing in dry,

gravelly soil. Flowers white." Coroico, September 2, 1894.

(No. 2405.)

ALLOPHYLUS CINNAMOMEUS Radlk. Bull. Torrey Club 25: 336.

1898. (No. 2236.)

CUPANIA VERNALIS Camb. in St. Hil. Fl. Bras. Mer. 1: 387.

(No. 2254.)

MATAYBA BOLIVIANA Radlk. Bull. Torrey Club 25: 336. 1898.

"A tree about 15 ft. high, with white flowers, growing in rich forest, near river." Coripata, April 23, 1894. (No. 2171.)

Llagunoa Mandoni sp. nov.

Branchlets grayish-brown with prominent leaf-scars, the internodes only about 4 mm. long; petioles 6 mm. long, margined, showing no indications of lateral leaflets, blades 3-6 cm. long, 2.5-4 cm. broad, oval-ovate, acutish, rounded to subcordate at the base, serrate with short, broad teeth, puberulent on the veins underneath; flowers not seen; fruits solitary, the stoutish peduncles 1.25-2 cm. long; fruiting calyx-segments oval, 6-7 mm. long, thickish; fruits 2 cm. broad after expansion, pale-green externally, light-brown internally; seed black, 5 mm. long. (No. 1928.) Collected also by *Mandon*.

ANACARDIACEAE

DUVAUA FASCICULATA Griseb. Goett. Abl. 19: 116. 1874. (Specimen without number.) The same as a specimen collected by *Hieronymus* at Cordoba, August 20, 1877.

LOXOPTERYGIUM sp. (No. 2255.)

LEGUMINOSAE

CROTALARIA INCANA L. Sp. Pl. 716. "Grows 2 or 3 ft. high, in dry clay; the flowers yellow." Coripata, March 18, 1894. (No. 2069.)

CROTALARIA PTEROCAULA Desv. Jour. Bot. 3: 76. 1814. "A small plant growing in dry clay and gravel, on the hills above Coripata, the flowers yellow; scarce." March 26, 1894. (No. 2116.)

LUPINUS HUMIFUSUS Benth. Pl. Hartw. 169. (No. 1836.)

LUPINUS PANICULATUS Desr.; Lam. Encyc. 3: 625. (No. 1883.)
The same as *Mandon* 682.

Lupinus cuspidatus sp. nov.

Pilose, the older portions sparsely so, the hairs mostly appressed; stems stoutish, coarsely angled; stipules 1.25 cm. long, 3 mm. broad, the body lance-oblong, abruptly or gradually contracted into the narrowly linear attenuation, which comprises nearly half the length; petioles 3-6 cm. long, slender; leaflets mostly 7, the largest 3-4 cm. long, 1-1.25 cm. broad, oblong to oblanceolate, acute at the base, at the apex blunt but tipped with a slender acute cusp 1-2 mm. long, thin, the midrib prominent underneath, the venation inconspicuous; peduncle elongated, stout; panicle about 4 cm. broad; bracts similar to the stipules, but smaller, early deciduous, the pedicels mostly 2 or 3 together, about 7 mm. long, weak; lower lip of calyx 8 mm. long, strongly compressed, acute, the apex lightly incurved, the upper 7 mm. long; corolla white or whitish, the vexillum nearly 1.5 cm. long and almost as broad, the strong folds yellow or brown, the wings 1.5 cm. long, nearly 1 cm. broad, the keel strongly incurved; fruit not seen. (No. 1981.)

Lupinus macrostachys sp. nov.

Long and coarsely yellow-hirsute, the hairs somewhat shining; root vertical, elongated, slender, simple; stems 3-4 dm. long, stoutish but weak, ascending, coarsely angled, densely leafy; stipules more or less adnate to the petioles at the base, the free portion about 0.75 cm. long, linear-attenuate, thin; petioles 5-7 cm. long, weak; leaflets mostly 9, the largest 3.5-7 cm. long, 0.75-1.25 cm. broad, oblanceolate, acute at the base, minutely

pointed at the apex, the point green; leaf thin, yellowish-green, the midrib lightly prominent on both sides; peduncle short, stout, coarsely angled, the raceme 1.5–4 dm. long, about 3 cm. broad; bracts blue, mostly 7–8 mm. long, linear-attenuate; pedicels about 5 mm. long; campanulate tube of the dark-blue, hirsute calyx 2 mm. long, the keel 1 cm. long, 4 mm. broad when flattened out, acuminate, the upper lip 8 mm. long, its two teeth 3 mm. long, acute; corolla bright-blue, the vexillum 1.25 cm. long and broad, or a little broader, the wings 8 mm. broad, the basal auricle large, rounded, the keel nearly 1.5 cm. long, the apex acute, of a very deep blue; legume 2.5 cm. long, nearly 1 cm. broad, oblanceolate, very short-pointed, acute, densely hirsute, the persistent corolla enclosing the narrow, empty base, 2-seeded, so far as seen, the seeds 4 mm. long, oval or obovoid, flattened. (No. 1941.)

Lupinus macrostachys sessiliflorus var. nov.

Plant half as large, the flowers sessile, two-thirds of the size, the vexillum with a narrow, thickened, white summit (apparently abnormal), the keel with a white base. (No. 1982.)

TRIFOLIUM AMABILE H.B.K. Nov. Gen. 6: 503. (No. 2819.)

PSORALEA LASIOSTACHYS Vogel, Nov. Act. Nat. Cur. 19: Suppl.

1: 13. 1843. "A shrub 6 ft. high growing in mould and clay, the flowers blue; not plentiful." Coroico, July 14, 1894. (No. 2341.)

PSORALEA MEXICANA (L. f.) A. M. Vail, Bull. Torrey Club 21:

119. 1894. (*Indigofera mexicana* L. f. Suppl. 335.—*Psoralea Mutisii* Kunth, Mim. 191. pl. 54.) (No. 2060.) The same as 158.

? COURSETIA GRANDIFLORA Benth.; Oerst. Kjoeb. Vidensk. Meddel.

10. 1853. (No. 1899.) The same as *Mandon* 707.

COURSETIA BOLIVIANA Britton, Bull. Torrey Club 16: 260. 1889.

(No. 1810.) The same as *Rusby* 1047 and 1344.

ASTRAGALUS UNIFLORUS D.C. Astrag. 243. pl. 50. (Nos. 1792 and 1879.)

ASTRAGALUS CAPITELLUS Britton, Bull. Torrey Club 16: 260.

1889. (No. 1990.) The same as *Rusby* 1005.

CHAETOCALYX BRASILIENSIS (Vogel) Benth. in Mart. Fl. Bras. 15:

75. (Specimen without number.) The same as *Rusby* 2398.

ÆSCHYNOMENE FALCATA DC. Prodr. 2: 322. Coripata, Yungas, March, 1894. (No. 2820.)

ÆSCHYNOMENE BRASILIANA (Poir.) DC. Prodr. 2: 322. (*Hedy-*

sarum brasilianum Poir. Encyc. 6: 448.) "Abundant in dry, gravelly soil, the flowers yellow." Coripata, March 8, 1894. (No. 2082.)

STYLOSANTHES JUNCEA Micheli, Mém. Soc. Phys. Genève. 28¹: 19. 1883. (No. 2150.)

ARACHIS HYPOGAEA L. Sp. Pl. 741. "Requires good soil; cultivated; local name 'Mani.'" Coripata, April 24, 1894. (No. 2149.)

MEIBOMIA CAJANIFOLIA (H.B.K.) Kuntze, Rev. Gen. 195. (*Hedysarum cajanifolium* H.B.K. Nov. Gen. 6: 525. pl. 598.) (No. 1987.) The same as *Rusby* 965.

MEIBOMIA BARBATA (L.) Kuntze, Rev. Gen. 195. (*Hedysarum barbatum* L. Syst. ed. 10. 1170.) "Abundant in dry, gravelly soil, the flowers pale-blue." Coripata, March 11, 1894. (No. 2085.)

Meibomia variegata sp. nov.

White-pilose, the hairs mostly appressed; stems slender, elongated, purple below, striate; petioles 4-5 cm. long, slender, striate; lateral leaflets very short-petiolulate, 4-5 cm. long, 1.75-2.25 cm. broad, ovate, rounded at the base, minutely apiculate at the obtuse apex, entire, very thin, bright-green with an irregular, pale middle patch, the very slender yellowish venation lightly prominent, especially underneath, the strongly ascending secondaries about 6 pairs; terminal leaflet 0.75-1.25 cm. distant from the lateral, nearly a half larger; panicle very large, very loose and open, leafy, the very slender branches 1-1.5 dm. long, very loosely few-flowered; bracts caducous, 3-4 mm. long, ovate, long-attenuate; pedicels mostly 2 together, about 1 cm. long, filiform; calyx long-pilose, the tube 1 mm. long, broadly campanulate, the lobes lanceolate, attenuate, the longest 4 mm., the shortest nearly 3 mm. long; corolla nearly 8 mm. long, light-purple; stamens 7 mm. long, one free from the others, distinct at the summit for 1 mm., the pistil a little longer; ovary not stipitate; legume of about 3 joints, one suture very lightly, the other deeply sinuate, the joints about 8 mm. long, 5 mm. broad, the middle one a little shorter and nearly semicircular. (No. 2817.)

VICIA SETIFOLIA H.B.K. Nov. Gen. 6: 500. (Specimen without number.)

BRADBURYA sp. nov. An undescribed species of this genus was distributed, but our one specimen was lost and description cannot be written. (No. 2328, in part.)

ERYTHRINA RUBINERVIS H.B.K. Nov. Gen. 6: 434. "A tree about 40 ft. high, growing in wet clay; the flowers dark-red. Local name 'Saibo.'" Coroico, September, 1894. (No. 2438.)

GALACTIA GLAUDESCENS H.B.K. Nov. Gen. 6: 431. "Grows

on dry, gravelly hillsides; the flowers pale-blue." Coripata, March 15, 1894. (*No.* 2084.)

CANAVALIA OBTUSIFOLIA DC. Prodr. 2: 404. "Climbing on high trees in the forest; the flowers blue." Coripata, May 15, 1894. (*No.* 2195.) Mr. Bang's use of the word "blue" here is unquestionably an error, as the flowers are present and are purple rather than blue.

? *PHASEOLUS TRUXILLOIDES* H.B.K. Nov. Gen. 6: 451. (*No.* 2269.)

PHASEOLUS ERYTHROLOMA Mart. in Benth. Ann. Mus. Vind. 2: 132. "Climbing 4-6 ft. in dry rocky and clayey soil, the flowers violet." Abundant at Coripata, April 26, 1894. (*No.* 2163.)

***Phaseolus vignoides* sp. nov.**

Shortly ferruginous-tomentose; branches elongated, very slender; stipules 3-5 mm. long, oval, obtuse, finely nerved; petioles 3-5 cm. long, stoutish, weak; petioles of the lateral leaflets 2 mm. long, very stout, the blades 4-5 cm. long, 2.5-3 cm. broad, ovate, lightly inequilateral, rounded at the base, short-acuminate and acute, thin, yellowish-green, 3-nerved, the venation inconspicuous above, with the nerves lightly impressed, prominent underneath, the secondaries 3 or 4 irregular pairs, strongly ascending; flowering peduncles 1-1.5 dm. long, stout, terete, few-flowered; bracts thick, blackish, 3-5 mm. long, ovate or oval, obtuse; calyx 1 cm. long, 1.5 cm. broad at the mouth, campanulate, lobed half-way, the lobes sub-rotund, the two upper completely united into one of similar form but broader and entire, thick, rigid, tomentose; vexillum 4 cm. broad, suborbicular, thickish, slightly emarginate, its claw short and broad, the auricles strongly inflexed, except their narrow apices which are deflexed to form a narrow tail about 3 mm. long; body of wing 2.5 cm. long, 1.5 cm. broad, inequilaterally obovoid, the apex rounded, its auricles coherent to the auricles of the keel, all the auricles together forming a several-winged body about 5 mm. long; claws about 8 mm. long; keel shorter than the wings, obtuse, spirally twisted; united portion of filaments about 2.5 cm. long, downwardly broadened, the free portions capillary, nearly 1.75 cm. long, the anthers uniform, 1.5 mm. long, lance-oblong, obtuse; style inflated, bearded underneath the small terminal stigma; legume (but one seen) 7 cm. long, 6 mm. broad, acute, the margins slightly thickened; seed 5 mm. long, 3 mm. broad.

"Climbing 10 to 15 ft., the flowers yellow and violet; abundant in wet mould near the roadside." Coroico, July 8, 1894. (*No.* 2328.)

DOLICHOS LABLAB L. Sp. Pl. 725. (No. 2821.)

Dolicholus phaseoloides (Sw.). (*Glycine phaseoloides* Sw. Fl. Ind. Occ. 3: 1248.) "Grows in mould and clay near roadsides, not climbing high, the flowers brownish-white." Coroico, September 11, 1894. (No. 2427.)

DOLICHOLUS sp. (No. 2818 or 2418.) This is the same as *Palmer 209* and *Blanchet 291*, which are referred to the last, but it appears to me distinct.

Dolicholus ovatus sp. nov.

Short-tomentose throughout; stems stoutish, coarsely angled; stipules about 7 mm. long, ovate, inequilateral, acuminate; petioles 2-3 cm. long, stoutish, lightly channeled above; petiolules of the lateral leaflets about 3 mm. long, very stout, the blades 4-7 cm. long, 2.5-4.5 cm. broad, ovate, truncate or rounded at the base, acuminate and acute, very inequilateral, thickish, the venation impressed above, prominent underneath; terminal leaflet 1-1.5 cm. distant from the lateral, about one-third larger, proportionally broader, 3-nerved; peduncles about 5 mm. long; racemes 0.5-1 dm. long; calyx-tube campanulate, 2 mm. long, 3 mm. broad; lower lobe 1 cm. long, lance-linear and tapering regularly from the base to the acute point, closely folded; lateral lobes 8 mm. long, lanceolate, long-acuminate and acute; two upper equaling the lateral, united to within 2 or 3 mm. of the tips, the free portions lanceolate, acuminate; standard 1 cm. long, 8 mm. broad, obovate, the keel 1.5 mm. long, broad, obtuse, the auricles 1 mm. long, broad and rounded but appearing acutish by the sharply infolded lower margin; wings 9 mm. long, the claw 1.5 mm. long, the auricle 1 mm. long, lanceolate, obtuse, salient, the body 3 mm. broad, united to the keel except about 2 mm. at the apex, the keel slightly longer; filaments united to within 2 mm. of the apex, the tenth distinct, the greenish, thick style equaling them, subulate, entire, obtusish; legume 2.5 cm. long, 1 cm. broad, the margins slightly thickened, narrowed at the base, very short-pointed; seed deep reddish-brown, 4 mm. long, not quite so broad, strongly flattened.

"Climbing slightly, in wet clayey soil; scarce; flowers yellow." Coripata, March 24, 1894. (No. 2098.)

Eriosema canescens sp. nov.

Canescent throughout with long, soft, appressed hairs; tuberous-thickened root cylindrical or fusiform; stems several from a woody crown, 5-8 dm. high, erect, slender, simple or nearly so, angled above; stipules 1.5 cm. long, 3-4 mm. broad, lanceolate, attenuate, sub-connate; petioles 3-5 mm. long, stout and broad; terminal leaflet 0.8-1.2 dm. long, 1-1.5 cm. broad, the lateral 6-9 cm. long; leaflets lance-oblong, on petiolules about equaling the petioles,

blunt at the base, obtuse but minutely apiculate at the apex, entire, thick and rigid, the venation strongly impressed above, the midrib and about 15 pairs of strongly ascending secondaries strongly prominent underneath; flowers not seen; pedicels of the fruits 7-12 mm. long, stout, erect; calyx-tube very short, the lobes unequal, 5-8 mm. long, linear, falcately curved, attenuate from the base, densely pilose; pod 1.5 cm. long, nearly 1 cm. broad, inequilaterally elliptical, minutely apiculate; seed 5 mm. long, compressed, dark-brown with the thicker margin white.

"Scarce, on dry gravelly hills; the flowers yellow." Coripata, Yungas, March 18, 1894. (No. 2094.)

? *MACHAERIUM ANGUSTIFOLIUM* Vogel, *Linnaea* 11: 193. 1837.

"A tree 25-30 ft. high, growing in wet forest-mould, the flowers blue." Coripata, March 14, 1894. (No. 2190.) The same as *Rusby* 2366.

Machaerium Bangii sp. nov.

Stems and inflorescence ferruginous-tomentose; leaves pilose upon the veins; branches coarsely angled; branchlets elongated, dark, lightly angled; spines about 6 mm. long, 3.5 mm. broad at the base, lightly recurved, ferruginous; petioles 1-2 cm. long, stout, dilated at the insertion; leaves 1.5-2 dm. long, pinnate, the leaflets 12-15 on each side, alternate; petiolules about 1 mm. long, nearly as broad; leaflets 3-4.5 cm. long, 1-1.5 cm. broad, lance-oblong, rounded at the base, emarginate at the apex, thin, dark-green above, yellowish-green underneath with the midrib prominent, the venation obscure, the secondaries very numerous; panicle 3 dm. or more long and broad, loose and open; pedicels about 2 mm. long, stout; calyx thick, dark-purple, 5 mm. long, 4 mm. broad, campanulate, the base rounded or truncate, the mouth oblique, the short lobes triangular, obtusish with acute sinuses; orbicular, thick bractlets nearly half as long as the calyx; corolla dark-purple, thick, lightly pilose, abruptly flexed a little above the calyx; vexillum, exclusive of the short claw, 9 mm. long, 7 mm. broad, cordate at both ends; wing 8 mm. long, exclusive of the claw, 4 mm. broad, strongly auricled, the auricle semi-rhomboidal, 1 mm. broad; keel 6 mm. long, exclusive of the claw, not measured on the strong curve, the petals 3 mm. broad, obtuse; curve of stamens and pistil nearly a semicircle, the stamens equally diadelphous, the filaments thick; ovary oblanceolate, acuminate at both ends, long-stipitate, pilose.

"A shrub, not very tall, the stem very thorny, the flowers light-blue. In dry, sunny, gravelly places." Coroico, August 30, 1894. (No. 2399.) "Sometimes the Indians use the leaves instead of coca."

? *DREPANOCARPUS LUNATUS* (L. f.) G. Meyer, *Primit. Fl. Esseq.*

238. (*Pterocarpus lunatus* L. f. Suppl. 317.) "A shrub 10-15 ft. high, in dry, shaded locations, the flowers pale-blue, falling off very easily; scarce." Coripata, May 4, 1894. (No. 2175.)

CASSIA BICAPSULARIS L. Sp. Pl. 376. (No. 2824 and probably also no. 2658.)

? CASSIA PENDULA Willd. Enum. Hort. Berol. 440. (No. 1985.)

CASSIA PATELLARIA DC. in Collad. Hist. Cass. 125. pl. 16. "In and about coca-plantations and other cultivated grounds, the flowers yellow." Coripata, March 7, 1894. (No. 2081.)

CASSIA SYLVESTRIS Vell. Fl. Flum. 169; 4: pl. 78. (Nos. 2822 and 2823.)

CASSIA TOMENTOSA L. f. Suppl. 231. (No. 1782.)

CASSIA TORA L. Sp. Pl. 538. "Grows 2-5 ft. high in dry clay, the flowers yellow; scarce." Coripata, April 26, 1894. (No. 2161.)

CASSIA ABSUS L. Sp. Pl. 376. (No. 2139.)

MIMOSA SORATENSIS Benth. Trans. Linn. Soc. 30: 427. 1875. (No. 1780.) The same as *Rusby* 1299.

? MIMOSA ASPERATA L. Syst. ed. 10. 1312. "A shrub 8-10 ft. high, growing in sandy places near the river; very sensitive; flowers a light red-rose color; scarce." Coripata, April 20, 1894. (No. 2147.)

MIMOSA sp. (No. 1812.)

Acacia (*Vulgares*) *boliviana* sp. nov.

Unarmed, pubescent; branches stout, flexuous, sharply sulcate; branchlets slender, short, numerous, coarsely angled and sulcate; stipules 3-5 mm. long, lance-linear, obtuse, 3-nerved, thick, red; petioles about 3 cm. long, stout, sulcate, the entire leaf about 2 dm. long, 1 dm. broad, bipinnate, the pinnae 15-20 pairs, opposite, the lower shorter, very short-petiolate, the petiolules obscurely glandular at the base; pinnules about 50-60 pairs, 4 mm. long, nearly 1 mm. broad, oblong, very inequilateral, truncate at the base, oblique and acutish at the apex, the venation obscure, dark-green; panicles mostly 1.5 dm. long, ascending, loose, the peduncles mostly 2-5-fascicled, 1-1.5 cm. long, lightly angled; heads about 1.25 cm. broad, densely flowered; buds globose, about 2 mm. in diameter; calyx campanulate, nearly 2 mm. long, the lobes oval, obtuse, thick; stamens 4-5 mm. long, yellow with a slight tinge of red; legume 4-6 cm. long, 1-1.25 cm. broad, the stipe about 7 mm. long, strongly flattened, with thickened margins, abruptly pointed, the point 3-4 mm. long, acute; about 5-7-seeded.

"A shrub 10 to 15 ft. high, with white flowers, abundant in dry clayey soil and slate." Coripata, February, 1894. (*No.* 2070, in flower; also a specimen in fruit, without number.)

Pithecolobium (*Samanea* ?) **coripatense** sp. nov.

Ferruginous-puberulent; branches short, stoutish, widely spreading, coarsely angled, densely leafy; stipules not seen; leaves bipinnate, the pinnae mostly 6 pairs, the pinnules 8-10 pairs; petioles 2-3 cm. long, stoutish, slightly dilated at the base, the petiolules similar, about 5 mm. long; pinnules subsessile, about 1 cm. long, 5-7 mm. broad, oblong-ovate, highly inequilateral, slightly falcate, the base truncate, angularly produced upon the lower side, minutely apiculate at the apex, deep-green, thickish, the venation prominent, especially underneath, the secondaries about 7 pairs; panicles shortly and stoutly peduncled, 3-5 cm. broad in the specimens, the branches suberect, the heads nearly 1 cm. broad, densely flowered; bud broadly obovoid, rounded at the summit, cinereous; calyx less than 1 mm. long, hemispherical-campanulate, shortly and obtusely toothed, the corolla 2 mm. longer, campanulate, divided about to the middle; stamens about 20-25.

"A shrub about 15 ft. high, with white flowers. One specimen found at Coripata, May 6, 1894, in dry clay, among other shrubs." (*No.* 2176.)

PIPTADENIA COLUBRINA (Vell.) Benth. Jour. Bot. Hook. 4: 341. 1842. (*Mimosa colubrina* Vell. Fl. Flum. 11: pl. 16.) "A stout tree, 40 ft. high, growing in wet clay and gravel, the timber good for building." Coripata, May 8, 1894. (*No.* 2179.)

INGA BOLIVIANA Britton, Bull. Torrey Club 17: 9. 1890. (*No.* 1986.) The same as *Rusby* 990.

INGA TENUIFLORA Salzm.; Benth. Lond. Jour. Bot. 4: 596. 1845. (*No.* 2659.)

Inga hirsutissima sp. nov.

Branchlets stout, terete, densely ferruginous-hirsute with spreading hairs; stipules persistent, mostly a little less than 1 cm. long, mostly broader than long, ovate, truncate or subcordate at the base, slightly pointed and acute at the apex, purplish-brown, cartilaginous and rigid, strongly many-nerved; leaves sessile, the rachis (upper leaves only seen) about 5 cm. long, by the wings 5-7 mm. broad; leaflets sessile, 4 pairs, the lowest 3-5 cm. long, 2-2.5 cm. broad, the uppermost 6-8 cm. long, 3-4 cm. broad, obovate, slightly inequilateral, rounded at the base, very abruptly short-pointed and acute at the apex, entire, thickish, the venation very lightly prominent above, more so underneath, the slender secondaries about 8 pairs; flowering peduncles 3 cm. long, stout, strongly angled; heads

short and dense, 3-5 cm. broad in full bloom; bracts 5 mm. long, broadly ovate, acuminate and acute, strongly nerved; calyx-tube about 4 mm. long, campanulate, the lobes of about the same length, regularly triangular-acuminate and acute, the sinuses about equaling them; calyx brown, thick, rigid, strongly nerved; styles apparently about twice the length of the stamens; fruit not seen.

"A slender tree 15 ft. high, with greenish flowers, in wet forest mould, scarce." Near Coroico, July 10, 1894. (*No.* 2333.)

***Inga rugosa* sp. nov.**

Shortly and densely tomentose, ferruginous or gray, the branchlets coarsely angled; stipules not seen; petioles (only the uppermost seen) 5-10 cm. long, stout, very slightly margined; leaflets two pairs, 5-6 cm. apart, subsessile, the rachis margined; leaflets 1.5-2.5 dm. long, 0.6-1 dm. broad, the upper somewhat larger, ovate, oval or obovate, inequilateral, rounded at the base, acute at the apex, thick, the midrib lightly prominent above, strongly prominent underneath, like the 12-15 pairs of principal secondaries, each alternating with one or two short lesser ones, the upper surfaces slightly hard, the lower soft; peduncles axillary, and fascicled at the apex, 4-5 cm. long, very stout; heads elongated, dense, about 4 cm. broad; calyx-tube 4-5 mm. long, 3 mm. broad, campanulate, the upper half mostly a little contracted; lobes unequal, 3-5 mm. long, rigid, broadly ovate, acute; corolla about twice the length of the calyx, densely white-hirsute, the lobes 3 mm. long, ovate, obtuse; fruit not seen.

"A tree 20 to 30 ft. high, with white flowers, abundant in damp forest-mould, the timber used for building." Calapampa, Yungas, July 30, 1894. (*No.* 2364.) Species near *I. Miqueliana*.

ROSACEAE

***Hirtella lightioides* sp. nov.**

Branchlets stout, spreading, purple, terete, papillose; stipules inconspicuous, 2 mm. long, lance-ovate; petioles 5 mm. long, very stout, ferruginous; blades 6-12 cm. long, 3-7 cm. broad, ovate or oval, rounded at the base, abruptly short-acuminate and obtuse at the apex, entire, thick and rigid, pale-green, above minutely scabrous and the veins lightly prominent, underneath finely stellate-scabrous, with the prominent veins strongly reticulate, the secondaries 12-14 pairs, connecting near the margin; inflorescence strongly ferruginous, the erect solitary loose panicles 6-10 cm. long, including the peduncle, which is of very irregular length, 2-3 cm. broad, the branches mostly cymosely 2-flowered; bracts 4-5 mm. long, lance-linear, attenuate and acute, the bractlets half as long, ovate; pedicels spreading, 3 mm. long, very stout, thickened

upward; sepals recurved, sub-equal, 4 mm. long, 3 mm. broad, oval, thick and rigid, green, lightly and bluntly keeled, ferruginous without, glabrous within, obscurely 3-nerved; petals sub-regular, 8 mm. long, 5-6 mm. broad, oval, slightly inequilateral, rounded at the apex, minutely clawed, purple, glabrous; filament-tube about 2 mm. high, the perfect stamens at length 2 cm. long, purple, the anthers deep-purple or blackish, nearly 1 mm. long, the three lower filaments 2-3 mm. long, very slender, white; style filiform, about equaling the filaments.

"A slender tree about 20 ft. high, with bright-blue flowers, scarce in dry forest-mould." Coroico, Yungas, September 7, 1894. (*No.* 2418.)

PRUNUS GUANAIENSIS Rusby, Mem. Torrey Club 6: 31. "A tree about 20 feet high, with white flowers, growing in forest-mould near river." Coripata, April 9, 1894. (*No.* 2170.) The same as 1432 and *Mandon* 677. A form with narrower leaves, with cuneate base, distributed as "2170a," may be distinct.

PRUNUS BRITTONIANA Rusby, Mem. Torrey Club 3^s: 24. (*No.* 1938.) The same as 821.

RUBUS BOLIVIENSIS Focke, Bremen Abh. 4: 158. 1874. (Or *Rubus* sp. nov.?) "Grows in hedges, and climbs to a height of 8 or 10 feet; the flowers white, the fruit edible. Local name 'Cari-cari.' Abundant." Coripata, April, 1894. (*No.* 2141.) The same as *Rusby* 468, in part. The limits of this species are extremely doubtful. *Rusby* 468 includes two forms, which may well be distinct.

RUBUS BOLIVIENSIS (or sp. nov.?). "Along roadsides, climbing to a height of 6-10 feet, the flowers light-red." Coroico, July 24, 1894. (*No.* 2361.) There is little doubt that this number represents a distinct species, but I do not care to publish it until I know it better.

RUBUS GLAUCUS Benth. Pl. Hartw. 173. (*No.* 1859b.) The same as *Rusby* 471.

RUBUS MEGALOCOCCUS Focke, Bremen Abh. 4: 157. 1874. (*Nos.* 1859a and 1859c.) The same as 1618, *Mandon* 662 and *Rusby* 470, but not *Rusby* 476.

Rubus bullatus sp. nov.

Coarsely hirsute-tomentose throughout, the stem and principal veins underneath armed with small, strongly recurved prickles; stipules becoming 1.5 cm. long, 2 cm. broad, irregularly ovoid, coarsely toothed, some inclined to be 3-lobed, foliaceous and of

similar texture to the leaves; petioles 3-5 cm. long, stout; blades 6-15 cm. long, 4-10 cm. broad, ovate, strongly cordate with a broad sinus, short-acuminate and acute, some 3-lobed with the lateral lobes much smaller and short and broad, irregularly crenate-dentate, thick, dark-green, finely and strongly reticulate, strongly bullate by the veins impressed above and very prominent underneath; panicles small and loose, with few spreading branches, leafy with small leaves similar to the stipules; pedicels nearly 1 cm. long, very prickly, the prickles slender, nearly straight; sepals occasionally prickly, 8 mm. long, 5 mm. broad, ovate, abruptly short-acuminate and acute, many purplish; petals 1 cm. long (white?), strongly veined; stamens shorter than the sepals, the filaments filiform, the anthers oval or sub-rotund; akenes (immature only seen) densely aggregated, densely white-pilose, tipped with the persistent, elongated, filiform, purple styles. (*No.* 2235.)

FRAGARIA CHILENSIS Duchesne, Hist. Frais. 165; Mill. Gard. Dict. ed. 8. no. 4. (*No.* 1961.)

Potentilla lignipes sp. nov.

Pilose with long, appressed white hairs; base stout, woody, rough with black, imbricated, ovate, acuminate scales; stems numerous, 1-4 dm. long, slender, prostrate or ascending, branched, coarsely angled, the internodes mostly 3-5 cm. long; stipules about 7 mm. long, 2 mm. broad, lance-oblong, obtuse, sub-herbaceous; petioles 5-7 cm. long, very slender; blades 1.5-2 cm. long, 2-2.5 cm. broad, cordate, 5-foliolate, the leaflets oblanceolate to obovate, rounded at the apex, cuneate at the base, coarsely few-toothed, the lower teeth acute, the upper obtuse to rounded, the secondaries about 5 or 6 pairs, the venation prominent below, lightly impressed above; pedicels markedly exceeding the leaves, very slender; outer sepals 8 mm. long, exceeding the inner by 2 mm., lance-oblong, obtuse, the inner a little broader, acute; petals 8 mm. long and broad, obcordate, pale-yellow; stamens about 20, two-thirds the length of the sepals, the filaments stout, bright-purple, inserted into the densely white-pilose base of the calyx, the anthers ovoid, nearly 2 mm. long; ovary 0.5 mm. long, reniform, shining, green, the stout, straight style more than 1 mm. long, reddish. (*No.* 1966.)

ACAENA ELONGATA L. Mant. 200. (*No.* 1821.)

ACAENA OVALIFOLIA R. & P. Fl. Per. 1: 67. (Specimen without number.) The same as *Rusby* 467.

ERIOBOTRYA JAPONICA (Thunb.) Lindl. Trans. Linn. Soc. 13: 102. 1822. (*Mespilus japonica* Thunb. Fl. Jap. 206.) "A stout tree, 30 feet high, cultivated and escaped from cultivation, the flowers white, the fruit edible. Local name 'Mesperus.'" Coripata, February 28, 1894. (*No.* 2066.) The same as *Rusby* 629.

- OSTEOMELES PERNETTYOIDES (Wedd.) Decne. Nouv. Arch. Mus. Paris 10: 184. 1874. (*Hesperomeles pernettyoides* Wedd. Chlor. And. 2: 230.) (No. 1839.) The same as *Rusby* 1787.
- OSTEOMELES FERRUGINEA H.B.K. Nov. Gen. 6: 211. (No. 1795.) The same as a part of no. 717, which was inadvertently distributed as *Clethra brevifolia* Benth.

SAXIFRAGACEAE

- ESCALLONIA ADSCENDENS Rusby, Mem. Torrey Club 6: 32. (No. 1827.) The same as no. 1089.
- WEINMANNIA LAURINA H.B.K. Nov. Gen. 6: 51. "A small tree, with white flowers, growing in wet forest mould." Unduavi, September 2, 1894. (No. 2484.) Also collected by *Pearce* at Sandillana, 8,000 to 9,000 ft., April, 1866.
- WEINMANNIA SORBIFOLIA H.B.K. Nov. Gen. 6: 57. (No. 1988.) The same as 311. Also collected by *Triana*, in New Grenada.

Weinmannia rhoifolia sp. nov.

Younger portions and inflorescence tomentellate, otherwise glabrous; branchlets blackish, lightly sulcate; stipules 3 mm. long, oval or obovate with broad summits, thick; petioles 6-12 mm. long and, like the rachis, strongly winged, the wing strongly revolute and concave; blade 2.5-5 cm. long, mostly of 5 or 7 leaflets, which are sessile, 9-18 mm. long, 6-12 mm. broad, oblong-obovate, blunt, slightly narrowed at the base, the terminal more so, serrate, thick and coriaceous, pale-green above, brown underneath, the pale venation prominent on both surfaces; secondaries 10-12 pairs, forking at three-fourths of the distance to the margin and sending a branch into the next upper, and one into the next lower sinus; branches of the secondaries anastomosing about midway to form a crooked intermediate secondary; racemes solitary in the axils, 5-10 cm. long, including the short peduncle; inflorescence moderately dense, the fascicles mostly 5-7-flowered; pedicels slender, about 5 mm. broad, the lobes ovate, obtuse, thick; stamens slightly exceeding the styles; fruit not seen. (No. 1989.) Distributed as *W. sorbifolia*. The same as *Matthews* 1436.

- RIBES ALBIFOLIUM R. & P. Fl. Per. 3: 12. pl. 232, f. b. "A shrub, 6 ft. high, with green flowers, growing in forest mould." Unduavi, September, 1894. (Nos. 2487 and 1832.)

HALORAGACEAE

- CALLITRICHE sp. (No. 1887.)

MYRTACEAE

PSIDIUM PYRIFERUM L. Sp. Pl. ed. 2. 672. (Nos. 2830, 2831 and 2832.)

PSIDIUM POMIFERUM L. Sp. Pl. ed. 2. 672. (No. 2829.)

MYRTUS MICROPHYLLA H. & B. Pl. Aequin. 1: 19. pl. 4. (No. 1911.)

MYRCIA PAIVAE Berg; Mart. Fl. Bras. 14¹: 179. (Nos. 2827 and 2828.)

MYRCIA LANCEOLATA Camb.; A. St. Hil. Fl. Bras. Mer. 2: 329. (No. 2826.) The same as no. 285.

MYRCIA PRUNIFOLIA DC. Prodr. 3: 253. (No. 2825.) The same as *Rusby* 2693.

Myrcia coroicensis sp. nov.

Inflorescence and younger portions ferruginous or more or less yellowish appressed-hairy; branchlets slender, strongly spreading, the internodes about 3-4 cm. long; petioles 5-7 mm. long, rather slender; blades 5-7 cm. long, 2-4 cm. broad, ovate, the base obtuse or abruptly acutish, the apex abruptly and strongly acuminate, the acumination obtuse, the upper surface glabrous except when very young; pilose upon the veins underneath, thickish, pale, the secondaries very numerous, the alternating ones stronger, a strong inter-connecting line about 1 mm. from the margin, the surfaces rather finely reticulate, venation obscure above, rather conspicuous underneath; panicles terminal and in the upper axils, 6-10 cm. long, pyramidal, very loose and open, the branches very slender; mature buds globose, 2-2.5 mm. in diameter; calyx strongly tomentose on both surfaces, the tube broadly turbinate, rather longer than the broad lobes, extended between the ovary and stamens, becoming strongly recurved; style slender, tapering, 4-5 mm. (No. 2276.)

Very near *M. Paivae* Berg.

MELASTOMACEAE

DESMOSCELIS CALCARATA (Naud.) Triana, Trans. Linn. Soc. 28: 34. 1871. (*Lasiandra calcarata* Naud. Ann. Sci. Nat. III. 13: 127. 1850.) "Flowers large, white, fall on being touched. Grows in wet mould." Coripata, April 6, 1894. (No. 2119.)

TIBOUCHINA GRANULOSA (Desr.) Cogn. in Mart. Fl. Bras. 14³: 340. (*Melastoma granulosa* Desr.; Lam. Encyc. 4: 44.) Nos. 1955 and 2227.)

TIBOUCHINA BICOLOR (Naud.) Cogn.; DC. Monogr. Phan. 7: 265. (*Chaetogastra bicolor* Naud. Ann. Sci. Nat. III. 14: 128. 1850.)

"A shrub, 4 to 6 feet high, in clay along roadsides, the flowers dark blue." Coroico, September, 1894. (*Nos. 1956 and 2453.*)

TIBOUCHINA ORBIGNYANA Cogn.; DC. Monogr. Phan. 7: 261. (Specimen without number.)

TIBOUCHINA LONGIFOLIA Baill. *Adansonia* 12: 74. (*No. 2644.*)

A specimen without number varies with broader, darker, nearly sessile leaves.

TIBOUCHINA GRACILIS Cogn.; Mart. Fl. Bras. 14¹: 386. (Specimen without number.)

TIBOUCHINA MEMBRANIFOLIA Cogn. Bull. Torrey Club 23: 17. 1896. (*No. 2857.*)

Tibouchina adenophora Cogn. sp. nov.

(Sect. *Diotanthera*): ramis acutiuscule tetragonis; junioribus petiolis pedunculisque pilis patulis brevibus glandulosis dense vestitis; foliis membranaceis, anguste ovatis, breviter acuminatis, basi rotundatis et leviter emarguatis, margine integerrimis, majoribus 7-nerviis, utrinque brevissime et densiuscule pilosis; paniculis majusculis, laxis, foliatis, multifloris; floribus sessilibus vel subsessilibus; calyce breviter denseque pilose, lobis triangulati-subulatis, tube multo brevioribus; staminibus leviter inaequalibus, filamentis glaberrimis, antheris linearibus superne longe attenuatis. Caulis lignosus robustiusculus, trichotome ramosissimus, ramis patulis, gracilibus: petiolus gracilis, 1-2 cm. longus: folia patentissima, supra obscure viridia, subtus viridi-cinerea, 9 cm. longa, 3-5.5 cm. lata: paniculae late pyramidatae, 0.5-1.5 dm. longae: calycis tubus anguste ovoideus, 4 mm. longus, dentes erecti, 1.5 mm. longi: petala ut videtur rosea, obovata, brevissime glandulosa, 4-5 mm. longa: antherae 3 vel 3.5 mm. longae: stylus crassiusculus, glaber, 7 mm. longus. (*No. 2645.*) Affinis *T. Rusbyi* Cogn. Bull. Torrey Club 17: 54.

Tibouchina obtusifolia Cogn. sp. nov.

(Sect. *Diotanthera*): ramis obscure tetragonis; junioribus petiolis pedunculisque setis brevissimis adpressisque dense vestitis; foliis mediocribus, rigidiusculis, anguste ovatis, apice obtusis vel obtusiusculis, basi subrotundatis, margine minute remoteque denticulatis, 5-nerviis nervis lateralibus latibreviter coalitis, supra setulis brevissimis subpatulis basi tuberculatis densiuscule vestitis, subtus brevissime denseque sericeo-villosis; paniculis satis parvis subfoliatis, dense submultifloris, floribus subsessilibus; calyce longiuscule adpresse denseque setuloso, lobis lineari-subulatis tubo paulo brevioribus; staminibus glabris, satis inaequalibus, majorum connectivo latibreviuscule producte. Caulis lignosus, satis gracilis, laxo ramosus, obscure tetragonus, ramis gracilibus, paulo compres-

sis, cinereo-fulvis: petiolus gracilis, 4-7 mm. longus: folia patula vel plus minusve reflexa, supra saturate viridia, subtus cinerea, 3.5-5.5 cm. longa, 17-26 mm. lata, superiora minora: paniculae 3-8 cm. longae: calycis tubus cinereus, ovoideus, 4 mm. longus, lobi erecto-patuli, 3 mm. longi: petala ut videtur rosea vel purpurascens, obovato-oblonga, subtiliter ciliata, 10-11 mm. longa: antherae 5-6 mm. longae: stylus subfiliformis, glaber, 11 mm. longus. (No 2646.) Affinis *T. Brittonianae* Cogn. Bull. Torrey Club 17: 55.

Tibouchina excoriata Cogn. sp. nov.

(Sect. *Diotanthera*); ramis obscure tetragonis, inferne demum excoriatis; junioribus petiolis pedunculis calycibusque breviuscule adpresse denseque pilosis; foliis rigidiusculis, ovatis, acutis, basi rotundatis, margine integerrimis, majoribus 7-nerviis, utrinque breviuscule subadpresse denseque sericeo-villosis; paniculis parvis, foliatis, plurifloris; floribus sessilibus vel subsessilibus; calycis lobis oblongis, acutiusculis, tubo dimidio brevioribus; staminibus satis inaequalibus, filamentis glaberrimis, antheris linearibus superne longe attenuatis. Caulis lignosus, robustiusculus, excoriatus, ramosissimus, ramis erecto-patulis, satis gracilibus: petiolus gracilis, 4-10 mm. longus: folia patula vel plus minusve reflexa, supra obscure viridia, subtus cinerea, nervis rubescentibus, majora 5.5 cm. longa et 3 cm. lata, superiora multo minora: paniculae subcongestae, 3-4 cm. longae: calycis tubus anguste obovoideus, cinereus, 4 mm. longus, dentes erecti, 2 mm. longi: petala flavescentia, obovata, vix ciliata, 4 mm. longa: antherae 3 vel 4-4.5 mm. longae: stylus filiformis, glaber, 6 mm. longus. (No. 1992.) Affinis *C. mollis* Cogn.

TIBOUCHINA TETRAPETALA Cogn. Bull. Torrey Club 23: 277.

1896. "A very common shrub, 4-6 ft. high, growing in sunshine, in clay and mould." Coroico, Yungas, September 10, 1894. (No. 2425.)

BRACHYOTUM SANGUINOLENTUM (Naud.) Triana, Trans. Linn.

Soc. 28: 49. 1871. (*Chaetogastra sanguinolenta* Naud. Ann. Sci. Nat. III. 14: 131. 1850. (No. 2860.)

ACIOTIS PALUDOSA Triana, Trans. Linn. Soc. 28: 51. (No. 2647.)

CALYPTRELLA CUCULLATA Triana, Trans. Linn. Soc. 28: 72. pl. 5, f. 60. (Specimen without number.)

DIOLENA BOLIVIENSIS Cogn. Bull. Torrey Club 23: 277. 1896. (No. 2574.)

LEANDRA CRENATA (D. Don) Cogn.; Mart. Fl. Bras. 14¹: 137. (*Clidemia crenata* D. Don, Mem. Wern. Soc. 4: 308. 1823.) (No. 2629.)

- LEANDRA BOLIVIENSIS Cogn. Mem. Torrey Club 3³: 29. (*No.* 2859.)
- LEANDRA DICHOTOMA (D. Don) Cogn.; Mart. Fl. Bras. 14⁴: 200.
(*Clidemia dichotoma* D. Don, Mem. Wern. Soc. 4: 307. 1823.)
(*No.* 1994.)
- LEANDRA EROSTRATA (DC.) Cogn.; Mart. Fl. Bras. 14⁴: 139.
(*Clidemia erostrata* DC. Prodr. 3: 160.) (Specimen without number.)
- LEANDRA sp. (*No.* 1999.)
- MICONIA BRITTONII Cogn. Bull. Torrey Club 17; 92. 1890.
(*No.* 2231.)
- MICONIA BRITTONII GLABRATA Cogn. Bull. Torrey Club 23: 278.
2627.)
- MICONIA COELESTIS (Don) Naud. Ann. Sci. Nat. III. 14: 245.
(Specimen without number.) The same as *Rusby* 2279 and 2284.
- MICONIA CORDATA Triana, Trans. Linn. Soc. 28: 114. 1871.
"A tree 20 feet or more in height, with yellow flowers, growing on cool, wet, forested hills. Scarce." Coripata, May 11, 1894.
(*Nos.* 1186 and 2995.)
- MICONIA CREMOPHYLLA Naud. Ann. Sci. Nat. III. 14: 228
(Specimen without number.) The same as *Rusby* 2266.
- MICONIA CYANOCARPA Naud. Ann. Sci. Nat. III. 14: 221.
(Specimen without number.)
- MICONIA CYANOCARPA PARVIFOLIA Cogn. Bull. Torrey Club 23: 17. 1896. (*No.* 2259.)
- MICONIA CYANOCARPA HIRSUTA Cogn. Bull. Torrey Club 23: 278.
"A shrub, 6 to 8 ft. high, with white flowers, growing in good soil, along roadsides and in hedges, scarce." Coroico, August 16, 1894. (*No.* 2387.)
- ? MICONIA DIPSAEA Naud. Ann. Sci. Nat. III. 14: 138. (Specimen without number.)
- MICONIA DOLICHORHYNCHIA Naud. Ann. Sci. Nat. III. 14: 166
(*No.* 2672.) (The same as *Rusby* 2252.)
- ? MICONIA ELAEAGNOIDES Cogn.; Mart. Fl. Bras. 14⁴: 390. (*No.* 2650.)
- MICONIA FLAVESCENS Cogn. Bull. Torrey Club 17: 93. 1890.
"A shrub, 6 to 8 ft. high, with white flowers, growing in wet forest-mould." Unduavi, September, 1894. (*No.* 2486.)
- MICONIA GLOMULIFERA Cogn. Bull. Torrey Club 23: 15. 1896.
(*No.* 1856.)

- MICONIA GRANULOSA (Bonpl.) Naud. Ann. Sci. Nat. III. 16: 218.
1851. (*Melastoma granulosum* Bonpl. Melast. 25. *pl.* 11.) "A shrub, 8 ft. high, with white flowers, growing in forest-mould." Unduavi, September, 1894. (*No.* 1485.)
- MICONIA HOLOSERICEA (L.) Triana, Trans. Linn. Soc. 28: 101.
1871. (*Melastoma holosericeum* L. Sp. Pl. 390.) (*No.* 1957.)
The same as *Rusby* 2250.
- MICONIA HYGROPHILA Naud. Ann. Sci. Nat. III. 16: 220. 1851.
(*No.* 2624.)
- MICONIA IBAGUENSIS (Bonpl.) Triana, Trans. Linn. Soc. 28: 110.
1871. (*Melastoma ibaguense* Bonpl. Melast. 105. *pl.* 45.)
(*No.* 2002.)
- MICONIA LASIOCALYX Cogn. Bull. Torrey Club 23: 278. 1896.
"A shrub about 10 ft. high, with white flowers, growing in wet forest mould, in shade. Scarce." Calapampa, Yungas, July 16, 1894. (*No.* 2344.)
- MICONIA MACROPHYLLA (Don) Triana. (*No.* 1670.) The same as *Rusby* 2249.
- MICONIA MANDONI Cogn. Bull. Torrey Club 17: 93. 1890.
(*No.* 1894.)
- MICONIA MICRANTHIA Cogn. Bull. Torrey Club 23: 16. 1896.
(*No.* 2858.)
- MICONIA MINUTIFLORA (Bonpl.) DC. Prodr. 3: 189. (*Melastoma minutiflorum* Bonpl. Melast. 50. *pl.* 22.) (*No.* 2223.)
- MICONIA MULTIFLORA Cogn. Bull. Torrey Club 17: 60. 1890.
"A shrub about 20 ft. high with rose-colored flowers, in clayey and gravelly soil, near water." Coripata, June 25, 1894. (*Nos.* 2300 and 2651.)
- MICONIA NERVOSA (Sm.) Triana, Trans. Linn. Soc. 28: III.
1871. (*Melastoma nervosum* Sm. in Rees Cycl. 23: no. 31.)
(*Nos.* 1997, 2001 and 2652.)
- MICONIA PLUMIFERA BANGII Cogn. Bull. Torrey Club 23: 16.
1896. (*No.* 2283.)
- MICONIA RESINA Naud. Ann. Sci. Nat. III. 16: 226. 1851.
(*Nos.* 2626 and 2628.)
- MICONIA STENOSTACHYS DC. Prodr. 3: 181. "A shrub about 5 ft. high, with yellowish-white flowers, in dry gravel and clay. Abundant." Coroico, September 6, 1894. (*No.* 2416.)
- MICONIA TERNATIFOLIA Triana, Trans. Linn. Soc. 28: 118.
1871. (*No.* 2225.)

MICONIA THEAEZANS SUBTRIPLINERVIA Cogn. Melast. 421. "A slender tree, about 20 ft. high, with green flowers, in wet forest-mould. Abundant." Coripata, Yungas, June 24, 1894. (No. 2292.)

MICONIA THEAEZANS GLABERRIMA Cogn. Melast. 421. "A shrub about 15 ft. high, with greenish-white flowers, in wet forest-mould, the wood used for house building." Near Coroico, July 9, 1894. (No. 2329.)

MICONIA UNDATA ROBUSTA Cogn. Bull. Torrey Club 23: 278. 1896. "A tree about 15 ft. high, with white flowers, in shade, in wet forest-mould." Calapampa, July 14, 1894. (No. 2343.)

MICONIA UVIFERA Naud. Ann. Sci. Nat. III. 16: 222. 1851. "A shrub, 6 to 8 ft. high, with light-red flowers, in yellow clay and mould, along roadside. Abundant." Calapampa, July 2, 1894. (Nos. 2304, 2468* and 2654.)

MICONIA VALIDA Cogn. Bull. Torrey Club 23: 278. 1896. (No. 2630.)

Miconia amabilis Cogn. sp. nov.

(Sect. *Amblyarrhena*); ramis obtuse tetragonis et leviter quadriseulatis; junioribus leviter stellato-furfuraceis praecipue in sulcis, vetustioribus glaberrimis laevibusque; foliis submembranaceis, longe petiolatis, ovato-oblongis, acutis vel acuminatis?, basi subrotundatis, margine integerrimis, leviter 5-nerviis, supra glaberrimis, subtus ad nervos nervulosque vix stellato-puberulis caeteris glabris; floribus 5-meris, paniculatis, congestis, non secundis, subsessilibus; calyce densiuscule stellato-furfuraceo breviter obtuseque 5-lobato; petalis apice rotundatis; stylo brevissime hirtello. Rami robusti, late virides: petiolus satis gracilis, glaber, 5-6 cm. longus: folia erecto-patula, supra saturate viridia, subtus satis pallidiora, circiter 2 dm. longa, 11-12 cm. lata, nervis nervulisque subtus satis prominentibus: paniculae strictae, anguste pyramidatae, dense multiflorae, 16-17 cm. longae: rami erecto-patuli, elongati, satis compressi, dense stellato-puberuli, satis ramulosi: calyx ovoideo-campanulatus, cinereo-fuscus, 3 cm. longus latusque: petala rubescentia, ovato-rotundata, 2 mm. longa: staminum filamenta crassiuscula, leviter glanduloso-pilosula, 2 mm. longa, antherae leviter arcuatae, 2 mm. longae: stylus crassiusculus, apice dilatatus, 4 mm. longus, stigmate subpeltato. (No 2649.) Affinis *M. Bangii* Cogn. Mem. Torrey Club 3³: 30.

* Of 2468 Mr. Bang writes "A shrub about 10 ft. high, with yellow flowers, in shade, in forest-mould. Coroico, Sept. 1894." I believe this must be found distinct from 2304, but I do not know which is like the type. H. H. R.

Miconia latistigma Cogn. sp. nov.

(Sect. *Cremanium*); ramis junioribus petiolis pedunculisque brevissime denseque tomentosis; foliis longiuscule petiolatis, submembranaceis, anguste ovatis, oblique anguste longeque acuminatis, basi rotundatis vel vix emarginatis, margine integerrimis, 7-9-nerviis, supra pilis simplicibus brevissimis dense vestitis, subtus brevissime et densissime villoso-tomentosis; paniculis majusculis radiae multifloris; floribus 5-meris, sessilibus, glomerulatis; calyce pilis patulis breviusculis eglandulosis dense vestito, lobis triangulari-subulatis tube dimidio brevioribus. Rami satis graciles obscure tetragoni, cinerei: petiolus robustiusculus, 3-4 cm. longus: folia erecto-patula, supra saturate viridia, subtus viridi-cinerea, 13-20 cm. longa, 6-10 cm. lata, nervis subtus satis prominentibus, nervulis paulo distinctis: paniculae latissime pyramidatae, circiter 1 dm. longae, ramis patentibus, elongatis, radiae ramulosae: calycis tubus cinereus, campanulato-ovoides, 2 mm. longus, lobi erecti, 1 mm. longi: petala obovata, apice rotundata, 1 mm. longa: antherae vix $\frac{2}{3}$ mm. longae: stylus rectus, crassiusculus, 3-3.5 mm. longus, stigmatate late-peltato. Affinis *M. uviferae* Naud. (Specimen without number.)

Miconia stellipilis Cogn. sp. nov.

(Sect. *Cremanium*); ramis teretiusculis, junioribus petiolis pedunculisque pilis brevissimis patulis papillosis apice stellatis dense vestitis; foliis rigidiusculis, breviter petiolatis, anguste ovatis vel ovato-oblongis, longe angusteque acuminatis, basi rotundatis, margine integerrimis, 5-nerviis, supra adnervos dense stellato-puberulis, caeteris primum stellato-furfuraceis demum glabris, subtus brevissime et densiuscule stellato-pilosis praecipue ad nervos nervulosque; paniculis majusculis, radiae multifloris; floribus 5-meris, sessilibus, dense glomeratis, calyce breviter obtuseque lobato; stylo filiformi, apice truncato. Rami gracilis, juniores rubiginosi: petiolus robustiusculus, 6-9 mm. longus: folia patula, supra siccitate nigricantia, subtus cinereo-ferruginea, 8-16 cm. longa, 3.5-6.5 cm. lata: paniculae late pyramidatae, circiter 1 dm. longae, usque ad basin ramosae, ramis patentissimis: calyx late campanulatus, densiuscule stellato-furfuraceus, 1 mm. longus latusque: petala ovata, obtusa, 1 mm. longa: antherae circiter 0.5 mm. longae: stylus 2.5 mm. longus. (No. 2653.) Affinis *M. pulverulentae* Ruiz et Pav.

TOCOCA GUIANENSIS Aubl. Pl. Guian. 1: 428. (No. 2668.) The same as *Rusby* 2242.

CLIDEMIA ACUTIFOLIA Cogn. Mem. Torrey Club 3³: 32. (No. 1993.)

CLIDEMIA CORDATA Cogn. Bull. Torrey Club 17: 211. 1890. (No. 2000.)

CLIDEMIA SPICATA (Aubl.) DC. Prodr. 3: 159. (*Melastoma spicatum* Aubl. Pl. Guian. 1: 423. pl. 165.) (No. 1996.)

Ossaea secundiflora Cogn. sp. nov.

(Sect. *Diclemia*) ; ramis junioribus petiolisque pilis brevissimis adpressis densissime vestitis ; foliis breviter petiolatis, ovato-oblongis, longiuscule acuminatis, basi rotundatis, margine subtiliter serrulatis, leviter 7-nerviis, supra brevissime et densiuscule hirtellis, subtus brevissime denseque villosis ; floribus 4-meris, sessilibus, secus ramis paniculae secundis ; calyce brevissime subsparsaque pilosulo, minute 4-denticulato. Rami satis graciles, obscure tetragoni : petiolus satis gracilis, 1.5-3 cm. longus : folia membranacea, supra atroviridia, subtus satis pallidiora, 10-15 cm. longa, 5-7 cm. lata : paniculae laterales, sessiles, diffusae, 8 cm. longae, ramis divaricatis, filiformibus, elongatis, flexuosis : calyx nigricans, late campanulatus, 1.5 mm. longus, 2 mm. latus : petala triangulari-lanceolata, acuminata, 2-2.5 mm. longa : antherae lineari-oblongae, 1.5 mm. longae : stylus capillaris, 5 mm. longus. (No number.) Affinis *O. petiolaris* Triana. (No. 1998.)

LYTHRACEAE

CUPHEA IANTHINA Koehne ; Mart. Flor. Bras. 13¹ : 238. (No. 2267.) The same as *Rusby* 1067.

Cuphea pannoso-cortica sp. nov.

Scabrous ; a widely much-branched shrub, the periderm separating in long strips, the short branchlets very slender, densely leafy ; leaves subsessile, 0.5-1 cm. long, 3-5 mm. broad, ovate, slightly inequilateral, rounded at the base, obtuse, entire, ciliate, revolute-margined, the midrib very strong underneath ; pedicels 5 mm. long, slender, thickened upward, purple ; calyx 1.7 cm. long, 4-5 mm. broad at the mouth, infundibular, little narrower at the base, strongly nerved, bright-purple, the spur (yellowish-purple) 4 mm. long, 3 mm. broad, rounded ; calyx-lobes very short ; principal petals (bright rose-purple) 1 cm. long, 5 mm. broad, rounded at the apex, the midrib stout, broad, greenish-yellow ; longest filaments (yellow with purple tips) exerted 3 mm. ; anthers gray ; style not exerted, broadly dilated at the yellowish base, purple above, the stigma capitate, very small. (No. 2006, in part.)

ONAGRACEAE

EPILOBIUM ANDICOLUM Haussk. Oest. Bot. Zeits. 29 : 118. 1879. (No. 1808.)

FUCHSIA MACRANTHA Hook. Bot. Mag. pl. 4233. (No. 2834.)

FUCHSIA DEPENDENS Hook. Ic. Pl. pl. 65. (No. 2833.)

FUCHSIA CORYMBIFLORA R. & P. Fl. Per. 3 : 87. pl. 325. (No. 1806.)

SAMYDACEAE

Casearia obtusifolia sp. nov.

Softly puberulent throughout, except the upper leaf-surfaces other than the midrib; branchlets elongated, slender, flexuous, the internodes about 1 cm. long; stipules 2 mm. long, tapering from the base, caducous; petioles 5 mm. long, very stout; blades 6-8 cm. long, 3-4 cm. broad, oval, nearly elliptical, finely serrate, the teeth short and broad, obtuse or mucronate, thick, dark-green, somewhat shining above, with the finely reticulate venation impressed, strongly prominent underneath, the secondaries about 8 pairs; fascicles not very densely flowered; pedicels 1-2 mm. long, thick; sepals 5 mm. long, 3 mm. broad, oval or obovate, rounded at the summit, puberulent without; stamens 8, 4 mm. long, the filaments stout, the anthers ovate, acute, bright-yellow; staminodia 3 mm. long, fleshy or dilated, upwardly thickened, pilose and penicillate, adnate to the filaments for half the length; ovary broadly ovate, pilose, 3 mm. long; style 1.5 mm. long, the stigma capitate.

"A tree about 20 ft. high, with yellow flowers. But one found, in dry gravel and clay in forest." Coroico, September 8, 1894. (*No.* 2421.)

ABATIA BOLIVIANA (Mandon & Weddell) Britton, Bull. Torrey Club 17: 214. 1890. (*No.* 1777.) The same as *no.* 1613.

LOASACEAE

SCLEROTHRYX FASCICULATA Presl, Symb. Bot. 2: 3. *pl.* 53; *fide* Urban.

PASSIFLORACEAE

PASSIFLORA FOETIDA HIRSUTA Masters; Mart. Fl. Bras. 13¹: 583. (*No.* 2008.)

PASSIFLORA NEPHRODES Masters, Bull. Torrey Club 17: 282. 1890. (Specimen without number.) The same as *Rusby* 494.

PASSIFLORA RUBRA L. Sp. Pl. 956. (*No.* 2836.)

PASSIFLORA SUBEROSA L. Sp. Pl. 958. (Specimen without number.)

PASSIFLORA QUADRANGULARIS L. Syst. ed. 10. 1248. "Climbs over hedges in rich soil; flowers blue. The fruit is as large as a child's head and is edible, but has not a nice taste." Coripata, May 16, 1894. (*No.* 2198.)

PASSIFLORA TRICUSPIS Mart. Flor. Bras. 13¹: 587. (No number.) The same as *Rusby* 496.

PASSIFLORA TRISULCA Masters, Bot. Jahrb. 13: 218. 1887.

"Grows in forest-mould and climbs high upon trees; flowers greenish-blue." (No. 2441.)

Passiflora Bangii Masters, sp. nov.

(Sect. *Granadella*); ramulis glabris sulcatis cirrhatiss; foliis distantibus, membranaceis, glabris; petiolis 4-5 cm. longis, glandulis stipitulatis 5-6 onustis; stipulis foliaceis, 2 cm. longis, oblique oblongis, acutis; laminis 9-10 cm. diam., suborbicularibus, cordatis, palmatim 3-5-nerviis, ad medium trilobis, lobis oblongis acutis; pedunculis 6-7 cm., gracilibus, 1-floris; bracteis (ut videtur) deciduis, a flore parum remotis; floribus diametro 5-6 cm., tubo glabro lato poculiformi; sepalis oblongo-lanceolatis, foliaceis, trinerviis, dorso subapice foliaceo-acuminatis; petalis albidis (?), oblongis, membranaceis, quam sepala parum brevioribus; corona fauciali filamentosa, pluriseriali, filis externis liguliformibus violaceis petalis paulo brevioribus, filis intermediis 2-3-serialibus violaceo-purpureis, capitatis, precedentibus dimidio brevioribus, filis intimis longioribus, versus apices uncinatis, inflexis; corona media a medio tubi emergente, membranacea, annulari; gynophoro crassiusculo, brevi, basi corona cupulari albida membranacea circumdato; filamentis latis-simis oblongis obtusis apice filo brevissima antheram gerente munitis; ovario oblongo villosulo; stylis 3, crassiusculis apice clavate-dilatatis superato; fructu ut videtur oblongo, 6 cm. longi, glabro. (No. 2224.)

Passiflora crosa sp. nov.

Minutely and rather sparsely puberulent, or the upper leaf-surfaces strigose; branches slender, pale, strongly sulcate; stipules nearly 1 cm. long, ovate with attenuate acumination; tendrils simple; petioles 2-5 cm. long, slender; blades 0.5-1 dm. long and broad, cordate, deeply and angularly 3-lobed, the lobes acute, the margin sinuate, distantly toothed, the teeth very short, acute or apiculate, thin, deep-green, paler underneath, where the very slender pale-yellow venation is rather prominent and continued into the teeth; pedicels mostly geminate, 0.5-1.5 cm. long, recurved, setaceous-bracted; calyx-tube depressed-globose, 1 cm. broad, the lobes 1.5 cm. long, tapering from the base, which is 7 mm. broad; petals wanting in my specimens; crown treble, the outer about 1 cm. long, of numerous filiform divisions, the middle 2 mm. long, thin and delicate, white, the divisions ovate with toothed or lacerate margin, the inner short-tubular, with a free somewhat fleshy border; gynophore 7 mm. long; stamens 4, the filaments 5 mm. long, membranaceous, white, much dilated at the base, the anthers 2.5 mm. long, 2 mm. broad, triangular, obtuse; ovary globose-ovoid, 5 mm. long, downy; style filiform, 5 mm. long, the stigma capitate, 0.5 mm. broad; fruit 2 cm. broad, dark-blue, glaucous. (No. 2272.)

Carica boliviana sp. nov.

Only the summit of one plant seen. Glabrous; large leaf at base of inflorescence on a stout petiole 2.5 dm. long; blade rotund-obovate, 2 dm. long, rather broader, the base shallowly cordate, divided two-thirds of the way, the lobes one or two pairs, lance-ovate, rather inequilateral, shortly acuminate and acute, entire except the terminal, which sometimes has a few coarse teeth or lobes, very thin, dark-green above, drying yellowish-green underneath, the principal veins very strong and prominent, the others inconspicuous; smaller leaves of the inflorescence similar, about half as large; peduncles stoutish, about 1 cm. long, the pedicels articulated to the large nodose summit; pedicels slender, 0.5–1 cm. long; flowers 8 mm. long, none seen in an opened state; fruit (mature?) broadly oval, 3 cm. long, 2.5 cm. broad, the seeds 4 mm. broad.

“A shrub or tree about 10 ft. high without branches, in rich mould about houses, cultivated; flowers white; fruits dark yellow, larger than an egg.” Calapampa, July 12, 1894. (*No.* 2338.) Apparently the same as *no.* 1559.

CURCUBITACEAE

CALYCOPHYSUM PEDUNCULATUM VILLOSUM Cogn. Bull. Torrey Club 23: 17. 1896. (*No.* 2244.) *fide* Cogniaux.

MELOTHRIA HOOKERI Cogn.; DC. Monogr. Phan. 3: 588. “In hedges, climbing 10 to 15 ft. high, the flowers white. Scarce.” Coripata, April 10, 1894. (*No.* 2127.) The same as *no.* 258 and *Rusby* 2065.

GURANIA BOLIVIANA Rusby, Mem. Torrey Club 3³: 38. (*No.* 2013.)

GURANIA COSTARICENSIS SUBTRILOBA Cogn. (Specimen without number.)

ANGURIA LONGIPEDUNCULATA Cogn. Mem. Cour. Acad. Belg. 8vo. 27:— . 1877. *fide* Cogniaux.

ANGURIA WARSZEWICZII Hooker, Bot. Mag. *pl.* 5304. (*No.* 2666.)

CYCLANTHERA BRACHYBOTRYS (Poepp. & Endl.) Cogn. Mem. Cour. Acad. Belg. 8vo. 28: 73. 1878. *fide* Cogniaux. (*Momordica brachybotrys* Poepp. & Endl. Nov. Gen. et Sp. 2: 54.) “Climbing along the ground in clay and mud; flowers yellow.” Coroico, September, 1894. (*No.* 2467.) The same as *Rusby* 2059.

SICYOS AUSTRALIS Endl. Prod. Fl. Norf. 67. "Creeping in wet mould, the flowers green. Scarce." Coripata, March 7, 1894. (No. 2078.)

BEGONIACEAE

BEGONIA CLARKEI Hook. f. Bot. Mag. sub *pl.* 5663 et 5675. (No. 1862.)

BEGONIA BRACTEOSA A. DC. Ann. Sci. Nat. IV. 11: 132. 1859. (Nos. 2837 and 2838.)

BEGONIA GLABRA Aubl. Pl. Gui. 2: 916. "In forest-mould, running along the ground and climbing on old stems; flowers beautiful, snow-white; scarce." Coroico, September 6, 1894. (No. 2414.) The same as no. 1509.

BEGONIA MYRIANTHIA Britton, Bull. Torrey Club 27: 35. (No. 2665.) The same as *Rusby* 691.

CACTACEAE

OPUNTIA sp. (no data). (No. 2499.)

HARIOTA SALICORNIOIDES DC. Mem. Cact. 23. "Depending from old stems in the forest. Flowers white." Coripata, June 10, 1894. (No. 2323.)

HARIOTA CRENATA Britton, Bull. Torrey Club 18: 35. 1891. "Depending from old stems in the forest. Flowers red." Coripata, June 10, 1894. (No. 2322.)

CEREUS LASIANTHUS K. Sch. ined. (Specimen without number.)

CEREUS. — Nos. 2497, 2498 and 2499 are of this genus.

? *CEREUS PASACANA* Web. (No. 2052.)

PHYLLOCACTUS LATIFRONS Walp. Rep. 3: 241. (No. 2294.)

UMBELLIFERAE

HYDROCOTYLE PUSILLA A. Rich. Ann. Sci. Phys. 4: 167. 1820. "In wet clay, the flowers green." Coroico, September, 1894. (No. 2442.)

HYDROCOTYLE BONARIENSIS Lam. Encyc. 3: 153. (No. 2270.)

AZORELLA BILOBA Wedd. Chlor. And. 2: 195. (No. 1831.)

SPANANTHE PANICULATA Jacq. Coll. 3: 247. (No. 2841.)

BOWLESIA LOBATA R. & P. Fl. Per. 3: 28. (No. 1884.)

ERYNGIUM PANICULATUM Cav. & Domb.; Delar. Eryng. 59 *pl.* 26. (No. 1820.)

SANICULA MEXICANA DC. Prodr. 4: 84. "In forest-mould." Coroico, September, 1894. (No. 2463.)

ARRACACIA ANDINA Britton, Bull. Torrey Club 18: 37. 1891.
(No. 2839.)

Oreosciadium andinum sp. nov.

Glabrous; stems 0.5-1.5 dm. long in my specimens, very slender, erect or ascending; petioles of the radical leaves 2-6 cm. long, very slender, the sheath long and broad; blades 1.5-4 cm. long and broad, ternate, the divisions tapering into petiolules 0.5-1 cm. long, or in the larger leaves the petiolules distinct, the terminal about a half longer; divisions biternate or triternate, the ultimate segments oblong, acutish, 2.5-5 mm. long, entire; cauline leaves similar but smaller, becoming sessile; umbels subsessile, compound; peduncles of the branches 4-5 mm. long, very slender, finely and sharply angled; pedicels 2-3.5 mm. long, filiform but rigid, widely spreading, sharply angled; fruit (mature?) 1.5 mm. long, 1.25 mm. broad, ovoid, lightly compressed, blunt, obtusely ribbed. (No. 1805.)

ARALIACEAE

? DIDYMOPANAX MOROTOTONI (Aubl.) Decne. & Pl. Rev. Hortic. IV. 3: 109. 1854. (*Panax Morototoni* Aubl. Pl. Gui. 2: 949.) (No. 2258.)

SCIADOPHYLLUM PENTANDRUM (R. & P.) Poir. Encyc. 6: 747. (*Actinophyllum pentandrum* R. & P. Fl. Per. 3: 75 pl. 311.)
"A kind of woody climber, climbing high, in forest, and growing in wet mould; flowers white, fleshy." Coripata, June 22, 1894. (No. 2292.) Not the same as *Rusby* 549 and 609.

DENDROPANAX ARBOREUM (L.) Decne. & Pl. Rev. Hortic. IV. 3: 107. 1854. (*Aralia arborea* L. Pl. Jam. Pugill. 2: 11.—Syst. ed. 10. 967.) (No. 2245.)

Dendropanax oblongifolium sp. nov.

Glabrous; branchlets stoutish, flexuous, apparently fleshy and strongly wrinkled in drying so as to appear angular, pale-gray, strongly leafy toward the summit; petioles very irregular, 0.5-4.5 cm. long, strongly channeled by the upturned margins, the base dilated and blackish; blades 5-12 cm. long, 2-3 cm. broad, oblong, somewhat inequilateral, the base acute to acuminate, the apex acuminate and obtusish, venation weak and, except the midrib, inconspicuous on both sides, the crooked secondaries 6-10 pairs; umbels clustered at the summit, 3-4 cm. long, bearing a few irregular, fleshy, ovate bracts about 2 mm. long and broad; umbels about 20-flowered, the pedicels 1.5 cm. long, slightly thickened at the summit; calyx blackish (as dried), campanulate, in anthesis about 5 mm. long by 4 mm. broad, the margin somewhat sinuately truncate, yellowish; style short, broadly conical.

“ A scarce shrub, about 6 feet high and very slender, growing in wet shaded forest-mould.” Calapampa, Coroico. July 16, 1894. Similar to *no.* 2245, but that is a tree. (*No.* 2345.)

OREOPANAX FULVUM E. March.; Mart. Fl. Bras. 11: 254. “ Very slender shrub about 20 ft. high, in dry forest-mould.” Coroico, September, 1894. (*No.* 2466.)

OREOPANAX BOLIVIENSE Scem. Jour. Bot. 3: 272. 1865. (*No.* 1892.)

OREOPANAX MEMBRANACEUM Rusby, Mem. Torrey Club 3³: 42. “ A simple-stemmed shrub about 10 ft. high, in shaded forest-mould.” Uchimachi, near Coroico, July 22, 1894. (*No.* 2356.)

Oreopanax grosseserratum sp. nov.

Staminate plant.

Younger portions of the branchlets and inflorescence densely, and both leaf-surfaces sparsely, dark-red glandular-scurfy; branchlets very stout, densely leafy; petioles 1–5 cm. long, slender; blades 6–12 cm. long, 2–4 cm. broad, lanceolate to oblanceolate, mostly blunt at the base, cuspidate at the apex, the margin very unequally and very coarsely serrate with cuspidate teeth, coriaceous and very thick, above shining and yellowish (in drying), with impressed veins, underneath pale-green, the finely reticulate venation prominent, the secondaries about 8–10 pairs; heads racemose, the raceme terminal, loose, about 6 cm. long, the heads about 10, globose, 1 cm. in diameter, their peduncles slender, 1–1.5 cm. long, at the base bracted, the bracts 5 mm. long, broadly ovate, acuminate; petals 5, purple, yellowish at the base, 4 mm. long, 1.5 mm. broad, lance-oblong, acutish; filaments slightly exceeding the petals, the anthers white, 1.5 mm. long; styles connate, crooked, shorter than the filaments. (*No.* 1822.)

Species near *O. avicennifolium*. The plant was at first regarded as of a distinct genus, but Dr. Harms kindly points out that the flowers, being staminate, may well have the styles connate.

CORNACEAE

Cornus sp., probably undescribed. (*No.* 1799.)

CAPRIFOLIACEAE

Viburnum ayavacense H.B.K. Nov. Gen. 3: 428. (*No.* 2840.)

Viburnum tinoides L. f. Suppl. 184. (*No.* 1885.)

RUBIACEAE

Cinchona succirubra Pav.; Klotzsch, Abh. Akad. Berl. 1858: 60. (*No.* 2229.) Cultivated?

Lygistum confertiflorum (Benth.). (*Manettia confertiflora* Benth. Linnaea 23: 443. 1850.) (Specimen without number.)

Cosmibuena grandiflora (R. & P.). (*Cinchona grandiflora* R. & P. Fl. Per. 2: 54 = *Cosmibuena obtusifolia* R. & P. Fl. Per. 3: 3.) (No. 2055.) The same as *Rusby* 2103.

ISERTIA HYPOLEUCA Benth. Jour. Bot. Hook. 3: 220. 1841. (Specimen without number.) The same as a specimen collected by *Purdie* in New Grenada.

COCCOCYPSELUM CANESCENS Willd.; Roem. & Schult. Syst. Mant. 3: 130. "Grows underneath shrubs, in wet clay; flowers quite white. Similar to 270, but that has blue flowers; fruit blue." Coripata, April 26, 1894. (No. 2153.)

Coccocypselum Brittoni Rusby. (*C. glabrum* Britton, Bull. Torrey Club 18: 108. 1891. Not *C. glabrum* Bartl.) (No. 2018.) The same as *Rusby* 2479.

HOFFMANNIA PALLIDA Rusby, Mem. Torrey Club 3³: 44. (Nos. 2003 and 2004.) The same as no. 354.

HOFFMANNIA BRACHYCARPA Britton, Bull. Torrey Club 18: 108. 1891. (No. 2559.)

SABICEA CANA Hook. Ic. Pl. pl. 247. (Specimen without number.) The same as *Rusby* 1905.

Randia boliviana sp. nov.

Branchlets short, stout, whitish; spines stout, terete, those of the twigs 1-1.5 cm. long; stipules 4 mm. long, broadly triangular-ovate, acuminate, acute, rigid; leaves sub-sessile by a narrowed base, 2-4 cm. long, 1-2 cm. broad, oval-ovate, abruptly narrowed into the short, petiole-like base, varying from acute to blunt or rounded at the apex, glabrous, slightly shining above, thin but rigid, drying blackish, the midrib slightly prominent above, broad and very prominent underneath, the slender, crooked secondaries 4-6 irregular pairs; flowers not seen; fruit very short-peduncled, 1.2-1.5 cm. long, globose or slightly broader above, smooth and shining, tipped by the stout calyx-tube which is 1 mm. long, 3 mm. broad, the strongly reflexed lobes 2-3 mm. long, lanceolate, acuminate and acute. (No. 1773 and 1776.)

The same as *Mandon* 345; also collected by *Pearce* at Peluchuco, June 1865.

ELEAGIA GRANDIS Rusby, Mem. Torrey Club 4³: 208. (No. 2863.)

TOURNEFORTIOPSIS gen. nov.

Flowers hermaphrodite and perfect. Calyx-tube ovoid or oval, the limb tubular-campanulate, 5-lobed, persistent and somewhat accrescent. Corolla short-funnel-form, the tube straight, naked in the throat, 5-lobed, the lobes triangular-ovate, valvate, the summit inflexed and appendaged. Stamens 5, inserted about the middle of the tube, the filaments very short, the anthers oblong, dorsifixed a little below the middle, cordate, obtuse. Ovary 4-8-celled, the cells elongated-tubular, the ovules solitary in the cells, suspended; style equaling the corolla. thick, fleshy, sericeous, dilated at the base; stigma capitate. Fruit drupaceous, the flesh very scanty, the stone thick and bony, oval, shallowly 4-8-sulcate or ribbed; apical perforations not apparent, perhaps appearing after full maturity. Seeds suspended, linear, flattened, the embryo scanty, the radicle ascending, much elongated, the cotyledons very short.

A shrub or tree with opposite petioled leaves, large intrapetiolar acuminate stipules, and axillary, solitary peduncles, bearing geminate, second spikes of sericeous or tomentose, rather small flowers.

Genus apparently near *Guetarda*, which it much resembles, but differing in the persistent calyx, the valvate conspicuously appendaged corolla-lobes and the dilated style.

I am indebted to Dr. Pax for kindly confirming my classification and diagnosis of this difficult genus.

Tournefortiopsis reticulata sp. nov.

A shrub or tree, the younger portions and lower leaf-surfaces tomentose; stipules 2 cm. long, about 6 mm. broad, oblong-ovate, acuminate, coriaceous, reddish-brown, almost keeled by the stout midrib; petioles 2-3 cm. long, mostly recurved-spreading, broadly channeled but closed in drying, conspicuously continuous with the stout, reddish midrib; blades 1-1.5 dm. long, 3-3.5 cm. broad, oblanceolate, blunt at the base, abruptly short-acuminate and cuspidate at the summit, coriaceous, glabrous and shining above, where the veins are strongly impressed, yellow-tomentose below, the 10-12 irregular pairs of prominent secondaries strongly up-curved and lightly connecting close to the margin, connected by the numerous straightish tertiaries; peduncles recurved, stoutish, dilated toward the bifurcation, mostly three-fourths the length of the petioles; spikes sessile, 3-4 cm. long, recurved, the flowers contiguous, erect; flowering calyx tomentose, about 3 mm. long, lobed nearly half-way, the lobes triangular-ovate; corolla tomentose, the tube 5 mm. long, the triangular-ovate lobes 2 mm. long and about as broad, each inflexed tip bearing two large, sub-rotund, fleshy appendages; filaments scarcely any, anthers more than 1 mm. long; fruit, exclusive of calyx, 5 mm. long, 4 mm. broad, sessile, oval-ovoid, ribbed, purple, the persistent calyx 3-4 mm. long, lobed more than half-

way, the cup-shaped tube nearly 3 mm. broad, the lobes broadly triangular-ovate, obtuse, coriaceous; stone brown with a purple summit, ribbed. (*No.* 2230.)

Chiococca alba (L.). (*Lonicera alba* L. Sp. Pl. 175. *Chiococca racemosa* L. Syst. ed. 10. 917.) "A tree 15 ft. high, growing in wet forest-land, the flowers yellow." Coripata, April 20, 1894. (*No.* 2146.)

FARAMEA SALICIFOLIA Presl, Symb. Bot. 24. *pl.* 70. (*No.* 2655.)

Faramea maynensis Spruce, in B. & H. f. Gen. 2: 121. Name only.

Glabrous; stems slender, herbaceous, angled in drying, the internodes 1 dm. long, dilated upward; stipules nearly 1 cm. long, connate two-thirds of their length, keeled toward the top, the keel continued into a terete awn; petioles 2.5 cm. long, rather narrow for the size of the leaf, channeled above, the channel continued into the midrib; blades 1.5–2.5 dm. long, 5–7 cm. broad, oblong, abruptly contracted into an acute base, and into a short attenuate acumination at the apex, thin, deep-green above, pale-green underneath, where the midrib and 14–16 pairs of principal, very slender secondaries are prominent, the latter connecting near the margins, coarsely and angularly reticulate between, with alternating, much more slender secondaries; peduncles (but one seen) 6 cm. long, blue-green, like the rachis and pedicels, the branches subtended by an irregular, cup-shaped involucre; branches of the involucre, like the pedicels, dilated upward, the latter about 7 or 8 mm. long; calyx-tube 1.5 mm. long, campanulate, strongly nerved, the limb lighter-colored, 1.5 mm. broad, shallowly lobed, the lobes acute; corolla-tube 7–8 mm. long, infundibular-cylindraceous, the limb in bud ovate, obtuse, 5 mm. long by 4 mm. broad, when expanded rotate and 1.5 cm. or more broad. (*No.* 2016.)

The same as *Spruce 4946*, etc. in Herb. Kew sub *F. salicifolia*.

FARAMEA MONTEVIDENSIS DC. Prodr. 4: 497. (*No.* 2015.)

I think this is the same plant that Muell. Arg. has called *Rudgea micrantha* (Flora 59: 454).

PALICOUREA TRIPHYLLA DC. Prodr. 4: 526. (Specimen without number.)

Palicourea papyracea sp. nov.

Inflorescence puberulent, otherwise glabrous; branches stout, terete, dark-colored; stipules (those seen imperfect) connate for 2–3 mm., the free portions triangular-ovate; petioles 1.5 cm. long, broad, margined blades 2–3 dm. long, 0.8–1.5 cm. broad, the uppermost oblong, the lower broadly ovate, the upper gradually, the lower abruptly acuminate at the base, abruptly short-acuminate and

very acute at the apex, thin but rigid, dark-green, the slender venation sharply prominent on both sides, the 12 pairs of secondaries strongly ascending, the tertiaries meeting at an obtuse angle about midway between them; peduncle (but one seen) 8 cm. long, strongly angled, orange-colored like the general inflorescence; panicle 4 cm. long, 6 cm. broad, the pedicels erect, thickish, 3-4 mm. long; calyx campanulate, 2 mm. long and broad, the teeth very short and broad; corolla-tube 1.3 cm. long, stoutly infundibular, strongly oblique at the mouth and at the strongly gibbous base, the lobes 3-4 mm. long, spreading; style slender, exerted 5 mm., the lobes slender, twisted. (*No. 2014*, in part.)

***Palicourea attenuata* sp. nov.**

Glabrous or the younger portions sparsely and minutely puberulent; branches very stout, angled above; stipules 4-5 mm. long and broad, triangular, obtuse; petioles 5 mm. long, consisting of the narrowed leaf-bases, broad, carinate underneath; blades 1-3 dm. long, 3-7 cm. broad, oblanceolate, acuminate at the base, attenuate at the apex, entire, rigid, thickish, deep-green above, light-green underneath; venation, except the very prominent terete midrib, inconspicuous above, prominent underneath, the 20 pairs of slender secondaries lightly upcurved, connected near the margin, and coarsely reticulate between by the slender and crooked tertiaries; peduncle very stout, 5-8 cm. long, the panicle pyramidal, obtuse, 1-1.5 dm. long, 7-9 cm. broad, moderately dense, the branches spreading, but not at a right-angle, slightly dilated at the insertion, strongly angled, subtended by lance-linear bracts, the largest 7-8 mm. long; pedicels proper none; flowers subulate-bracted, the bracts 1.5 mm. long; calyx campanulate, 1.5 mm. long, 1 mm. broad, the teeth minute, ovate, acute; corolla 5 mm. long, light-orange, nerved, the lobes 1 mm. long, ovate; fruit 4 mm. long, 5 mm. broad, green, lightly nerved, reticulate. (*No. 2017*.)

? *PSYCHOTRIA SUBCROCEA* Muell.-Arg.; Mart. Fl. Bras. 6⁵: 244. (*No. 2861*.)

? *PSYCHOTRIA RACEMOSA* (Aubl.) Willd. Sp. Pl. 1: 966. (*Nona-telia racemosa* Aubl. Pl. Gui. : 186, *pl.* 72.) The simple inflorescence figured by Aublet may be due to poor development. (*No. 2656*.) The same as *Rusby* 1867.

***Psychotria ovalifolia* sp. nov.**

Glabrous except for a yellow-gray, short, rather coarse pubescence on the principal veins of the lower leaf-surfaces, the corolla, calyx-lobes and young pedicels; branches dark-colored, terete or lightly angled, stoutish; stipules nearly 1 cm. long, 5 mm. broad, oval or obovate, rounded at the apex, minutely denticulate; petioles 2-2.5 cm. long (only the upper seen), stout, dark-colored, like the midribs; blades 2 dm. long, 1 dm. broad, oval, abruptly very short-

pointed at both ends, entire, bright-green, thin, 18–20 pairs of slender secondaries moderately upcurved, regularly connected by straight secondaries; peduncles 5 cm. long, lightly angled, the rachis more so; panicle (but one seen) about 1.2 dm. long, 8 cm. broad, obviously immature, regularly pyramidal, rounded at the apex, lax, the branches at right angles, dilated at the junction with the rachis, minutely subulate-bracted; pedicels 5 mm. long, slender; calyx-tube blackish, 3 mm. long, 2 mm. broad, cylindrical-campanulate, the limb abruptly spreading, the lobes about 1 mm. long and broad, triangular, obtuse; corolla 1 cm. long, densely tomentose, lightly contracted near the base, then regularly infundibular, the lobes 2 mm. long, triangular; stigmas exerted 2 mm., flattened, large. (*No.* 2014, in part.)

Apparently the same collected by *Spruce* near San Gabriel on the Rio Negro.

MAPOUREA TRISTIS Muell.-Arg. Flora 9⁵: 458, 465. 1876. "A shrub 6 to 10 ft. high, growing in wet mould, in forest."

Uchimachi, Coroico, August 12, 1894. (*No.* 2378.)

Cephaelis coneophoroides sp. nov.

Glabrous; branches elongated, stoutish but weak, flexuous, blackish; stipules 5–8 mm. long and as broad or broader, ovate, abruptly short-acuminate and very acute, thick, rigid, appressed; petioles blackish, about 5 mm. long, very stout, consisting of the narrowed leaf-base; blades 1–1.5 dm. long, 3–5.5 cm. broad, oblanceolate, acute at the base, abruptly contracted into a short attenuate point, entire, dark-green and slightly shining, thick, the midrib lightly channeled above, underneath prominent, nerved, thinly margined, the secondaries very numerous, at a right-angle with the midrib, lightly up-curved, obscure above, prominent underneath; peduncles 4–8 cm. long, mostly thickened toward the summit, the black branches umbellate or fascicled, subtended by ovate, acute, spreading bracts about 5 mm. long, regularly thickened from the base upward, 2–3 cm. long, sharply quadrangular, the sides 1-nerved; flowers ternate, sessile; calyx hemispherical-turbinate, the limb short, erect, shortly sinuately 5-lobed, minutely fimbriate or ciliate; corolla-tube cylindraceous, slightly dilated at about the middle, sub-contracted at the mouth, thick and tough, the lobes valvate in the bud with the apices incurved, recurved in anthesis; stamens inserted a little below the middle of the tube, the filaments very short, naked except at the very base; the anthers linear, blunt at both ends, naked; style capillary, exerted, the branches linear, slightly flattened, thick, blunt, recurved; seeds one in each cell, erect, obovate, flattened, truncate, short, smooth and shining. (*No.* 2866.)

The same as *no.* 366, and *Rusby* 2559, both published as "*Cousarea*?" Also collected by *Pearce* at Moro, 3,000–4,000 ft., July,

1866, and apparently the same as *Fendler 1996*, from Tovar. The last named has fruit 1.5 cm. long by 1 cm. broad (exclusive of the tubular calyx-limb), oval to slightly ovate, each half broadly and strongly 4-grooved, blackish-red, finely granular.

POEDERIOPSIS gen. nov. *Poedericarum*

Flowers perfect. Calyx-tube campanulate, the limb 5-lobed, persistent. Corolla infundibular, puberulent without, the limb and throat long-pilose within, 5-lobed, the lobes induplicate-valvate. Stamens 5, included, the short, slender filaments inserted near the base of the corolla, the very large anthers lanceolate, sagittate with blunt lobes, acute and mucronate, sub-versatily attached near the sinus of the lobes. Ovary 2-celled, 2-ovuled, the ovules erect from the base, anatropous, flattened. Style short; stigmas nearly as long as the corolla, filiform, not twisted in the partly opened flower, not pilose. Stems slender, twining, the stipules broad, bifid or 2-toothed, recurved, persistent, the leaves membranaceous, cordate, long-petioled. Panicles axillary, ample, lax, the flowers cymosely disposed. Fruit not seen.

The genus is very near *Poederia*, but differs in the persistent, bifid stipules, the mucronate acute anthers, the basal attachment of the filaments and the apparently straight stigmas (though these may become twisted in anthesis.)

Poederiopsis diffusa (Britton). *Manettia* (?) *diffusa* Britton, Bull. Torrey Club 18: 107.

Branchlets puberulent; stipules 3-4 mm. long and nearly as broad, purple, thickish, ovate; petioles 3-6 cm. long, slender, channeled above, costate, dilated at the base; blades 0.5-1 dm. or more long and two-thirds as broad, ovate, shallowly cordate, acuminate and acute, entire, deep-green both sides, glabrous, thin, the midrib and 6 or 7 pairs of secondaries rather prominent underneath, the venation broad, dark, finely reticulate; peduncles of the panicles 2-6 cm. long, very slender; bracts ovate, acuminate, sub-scarious, pubescent; pedicels 1 mm. long, stout, canescent; calyx-tube 1.5 mm. long and broad, the lobes 1 mm. long, ovate, acutish, purple, thickish, the sinuses acute; corolla thick, deep-purple, obovoid in the bud (expanded corollas not seen), 6 mm. long, ovate; anthers 3 mm. long, 1 mm. broad; stigmas 5 mm. long, flattened at the end. (*No. 2216.*) The same as *Rusby 2121*, the type of *Manettia diffusa*.

SPERMACOE CORYMBOSA R. & P. Fl. Per. 1: 60. (Specimen without number.)

? **SPERMACOE OCYMOIDES** Burm. f. Fl. Ind. 34. (Specimen without number.) The same as *Mandon 336*.

Spermacoce cephalophora sp. nov.

Glabrous or the leaves sparsely and minutely scabrous underneath; diffusely branched from the base, the branches slender, 1-2 dm. long, lightly 2- or 4-winged; united portions of stipules and rigid laciniae each about 2 mm. long; leaves sessile, 0.5-2 cm. long, 2-5 mm. broad, lanceolate, obtusish, entire; heads 0.5-1 cm. broad, dense; calyx-tube 2 mm. long, campanulate with the mouth slightly contracted; principal teeth 1 mm. long, subulate, pungent; corolla-tube 1.5 mm. long, stoutly infundibular-cylindraceous, the lobes 1 mm. long, ovate, obtuse; filaments a little exceeding the tube, the anthers oblong, half the length of the lobes; capsule dehiscent vertically from the top; seed brown, shining, a little more than 1 mm. long, elliptical. (No. 2862.)

MITRACARPUM HIRTUM DC. Prodr. 4: 572. (No. 2865.) The same as *Mandon 340*. This is probably one of a number of distinct species at present included under this name.

RICHARDIA SCABRA L. Sp. Pl. 330. (No. 1794.) The same as *Rusby 1969*.

RELBUNUM HIRSUTUM (R. & P.) Schum.; Mart. Fl. Bras. 6^e: 116. (*Galium hirsutum* R. & P. Fl. Per. 1: 59.) (No. 2864.)

? **RELBUNUM MICROPHYLLUM** (A. Gray) Hemsley, Biol. Cent. Am. Bot. 2: 63. (*Galium microphyllum* A. Gray, Pl. Wright. 2: 80.) (Nos. 2019 and 2020.) This is the same as *Bang 35*, which is not the same as *Rusby 1842*, although I have so published it.

Relbunium Bangii sp. nov.

Stems much elongated and very slender, strongly 4-angled, the angles bright-green, obtusish, sparsely armed with small white recurved prickles, the internodes about 1.5-2.5 cm. long; leaves in fours, sessile, 0.5-1.5 cm. long, 4-8 mm. broad, elliptical or slightly broader above, lightly mucronate, 3-nerved, the midrib stronger than the lateral nerves, sparsely, sharply hispid above, hairy-hispid on the nerves underneath; pedicels at length nearly 1 cm. long, filiform, spreading, angled; sepals foliaceous, 2.5 or becoming 4 mm. long, similar to the leaves but rather more pointed; berry drying blackish, 2 mm. long, 3 mm. broad, when young minutely sparsely hispid.

"Sometimes climbing; abundant in good forest soil; the flowers green, the fruits of a beautiful red, not like nos. 269 and 518, which have the fruits quite white." Coripata, Yungas, April 25, 1894. (No. 2154.) Apparently the same as *Rusby 1830*.

VALERIANACEAE

VALERIANA MANDONI Britton, Bull. Torrey Club 18: 264. 1891.
(Nos. 1924 and 2021.) The same as *Rusby* 874.

VALERIANA BANGIANA Graebn. Bot. Jahrb. 37: 437. "A few feet high, growing in hedges along roadside; flowers greenish-white."
Coripata, Yungas, September 6, 1894. (No. 2415.)

VALERIANA POLEMONIODES H.B.K. Nov. Gen. 3: 332. (No. 1824.) The same as *Rusby* 880.

VALERIANA POTERIOIDES Graebn. Bot. Jahrb. 37: 141. (No. 1841.)

VALERIANA PAVONII Poepp. Nov. Gen. et Sp. 3: 16. *pl.* 215.
"Climbing 8 to 12 ft. high, in rich mould, along forest-roads; flowers white." Coroico, July 25, 1894. (No. 2362.) This is the same as *Mandon* 304, *Spruce* 4356 and 5077 and *Mathew's* specimens from Chachapoya, but is not *Jameson's* from Cuenca.

VALERIANA sp., near *V. Pavonii*. (No. 1930.)

VALERIANA, specimens indeterminable. (No. 1947.)

CALYCERACEAE

ACICARPHA PROCUMBENS Less. Linnaea 6: 527. 1831. (No. 1789.)

COMPOSITAE

VERNONIA APICULATA Mart.; DC. Prodr. 5: 51. "In dry, clayey soil, in grassy places, the flowers light-violet; scarce."
Coripata, April 27, 1894. (No. 2166.)

VERNONIA BAKERIANA Britton, Bull. Torrey Club 18: 331. 1891.
"A shrub, 6 to 8 ft. high, in dry clay and gravel, the flowers pale blue; abundant." Coripata, May 12, 1894. (No. 2189.) The same as *Rusby* 214.

VERNONIA BREVIPETIOLATA Sch.-Bip.; Baker, in Mart. Fl. .B
6: 85. "Two to four feet high, in dry clay, on hillside 27
flowers dark blue; abundant." Coripata, April 4, 1894. (Nos. 2118 and 2886.)

VERNONIA CORIACEA Less. Linnaea 6: 661. 1831. (No. 1888.)

VERNONIA POLYCEPHALA DC. Prodr. 5: 39. "A shrub, 5 to 8 ft. high, with light-red flowers, growing in sunshine, in dry clay and gravel; scarce." Coroico, September 8, 1894. (No. 2420.)

VERNONIA VARRONIFOLIA DC. Prodr. 5: 56. (No. 2218.)

Vernonia patuliflora sp. nov.

(*Paniculatae*); stems, inflorescence and venation densely short-hairy, the hairs of the stem mostly a little reflexed; stems stout, purple or light gray-brown, the internodes mostly 4–8 cm. long; petioles 1–1.5 cm. long, very stout, strongly dilated at the base; blades 1–2 dm. long, 4–8 cm. broad, ovate, rounded at the base, shortly and acutely pointed at the apex, minutely and obsoletely serrate, above deep-green, rugose with impressed venation, minutely strigose, underneath pubescent, the regular, slender venation very prominent, the secondaries about 12–15 pairs, lightly ascending; panicles peduncled, very loose, 2 dm. long and broad, the slender branches horizontal and partly drooping; heads about 1 cm. apart, 7 mm. long, the purple involucre 5 mm. long, broadly campanulate, the outer scales narrowly lance-linear, attenuate and pungent, the innermost about a half longer, oblong, acutish; akenes 1.5 mm. long, stout; inner pappus nearly 4 mm. long, fine, copious, the outer about the length of the akene.

“A slender shrub, 6–10 ft. high, with blue flowers, growing in sand and gravel near the river. Rather scarce.” Coroico, August 23, 1894. (*No.* 2396.)

Vernonia paucisquamata sp. nov.

(*Paniculatae*); younger portions minutely puberulent; stem much elongated, very slender, apparently reclining, flexuous, finely angled; petioles 1–1.5 cm. long, thin, lightly margined above; blades 5–10 cm. long, 2–4 cm. broad, ovate, rounded at the base, abruptly acuminate and acute at the apex, entire, deep-green, the venation not prominent, reticulate, the secondaries 4 or 5 pairs; panicles axillary, strongly peduncled, the flowering portion 5–6 cm. long, 3 cm. broad, lax, leafy-bracted; heads sessile; involucre campanulate, 5 mm. long, the scales few, in about 4 series, appressed, oval to oblong-linear, obtuse, the middle green, the outer successively shorter; corollas not seen; akenes 2 mm. long, lightly but sharply angled, the pappus white, 4 mm. long, rigid, copious, connate by a narrow, dark basal ring.

“Climbing 8 to 15 ft. high, in wet forest-mould.” Coroico, September 4, 1894. (*No.* 2409.) The same as *Rusby* 1729.

Vernonia deflexa sp. nov.

Coarsely hirsute, including the involucre and the principal veins; root stout, long and coarsely branched; stems erect or ascending, rather slender, 5 dm. or more high, branched at the summit; lower leaves very short-petioled, the upper sessile, the narrow base becoming deflexed, the blade horizontal, 0.5–1.2 dm. long, 0.75–1.5 cm. broad, oblong, acute at both ends, obsoletely serrate, ciliate, rather thin, pale-green, the venation prominent, very strongly so underneath, the 10–12 irregular pairs of crooked secondaries strongly

ascending, connecting at some distance from the margin; heads loosely disposed, solitary in the axils, the lower slenderly and shortly peduncled; involucre broadly campanulate, 6-8 mm. long, the scales in many series, narrowly linear-attenuate, the innermost successively longer; akene 1.5 mm. long, oblanceolate; outer pappus dense, 1 mm. long, the inner rather scanty and coarse, 6 mm. long; corolla-tube narrowly cylindrical or sub-filiform, 4 mm. long, the limb abrupt, the lobes 3 mm. long, bright-purple, oblanceolate, thin. (No. 2038.)

VERNONIA sp. The inflorescence is too far advanced to permit of a diagnosis. (No. 2043.)

AGERATUM CONYZOIDES L. Sp. Pl. 1175. (No. 2027.)

STEVIA URTICIFOLIA Thunb. Pl. Bras. Dec. 1: 13. (No. 2877.)

Stevia Bridgesii sp. nov.

Roughly strigose-pubescent throughout; stems terete, green or light-purplish above, erect or ascending, much-branched and very leafy, the branches very slender, erect or strongly ascending; leaves 1-3 cm. long, 4-8 mm. broad, the smallest narrowly oblong, the largest ovate, the narrowed base somewhat clasping, or closely sessile, obtuse, mostly entire, the largest coarsely serrate, thickish, slightly 3-nerved, the midrib prominent below; fascicles of 3-5 heads, shortly racemed at the ends of the branchlets, leafy-bracted; peduncles of the heads scarcely any; heads about 1.2 cm. long; involucre infundibular, 8 mm. long, 3.5 mm. broad at the summit, purple, the scales oblong, acute, about 2 mm. broad; akenes very slender, 5 mm. long; pappus 5 mm. long; corolla-tube bright-purple, 6 mm. long, the lobes lighter, 2 mm. long, oval-ovate. (No. 2047.)

The same collected by *Bridges*. Near *S. compacta* Benth., and near *Mandon* 244.

STEVIA sp. (No. 2041 is apparently a *Stevia* with deformed inflorescence.)

EUPATORIUM AMYGDALINUM Lam. Encyc. 2: 408. "Grows in wet clay, in grassy places; scarce; flowers light-red." Coripata, June 24, 1894. (No. 2291.)

EUPATORIUM DENDROIDES Spreng. Syst. 3: 415. (= *Mikania arborea* H.B.K., but this is preceded by an *E. arboreum*.) "A shrub, 8-15 ft. high, in dry gravelly and clayey soil, the flowers white; abundant." Coripata, April 10, 1894. (No. 2113.)

EUPATORIUM GLOMERATUM DC. Prodr. 5: 154. "A shrub 5-8 ft. high, in dry places along roadsides, the flowers white and fragrant; abundant." Coripata, March 30, 1894. (No. 2112.)

EUPATORIUM MACROPHYLLUM L. Sp. Pl. ed. 2. 1175. "Growing

in wet clay, the flowers white." Coripata, May 10, 1894. (No. 2042 and 2183.)

EUPATORIUM MEGAPHYLLUM Baker, in Mart. Fl. Bras. 6²: 322.
"Plant 5-6 ft. high, growing near the river, in dry gravelly soil, the flowers white; not abundant." Coripata, June 20, 1894. (No. 2298.)

EUPATORIUM SCOPULORUM Wedd. Chlor. And. 1: 216. (No. 1912.) The same as *Mandon* 263.

EUPATORIUM SORDESCENS DC. Prodr. 5: 167. "A shrub from 10-20 ft. high, growing along roadsides and in hedges, the flowers bluish-white and pleasantly fragrant. The leaves and bark are very bitter and are used as a remedy against sand-fleas and lice on animals. Local name 'Tui.' Grows also at Sorata." Coroico, August 14, 1894. (No. 2381.) Apparently the same as *Glaziou* 12848.

EUPATORIUM STIPULIFERUM Rusby, Mem. Torrey Club 4³: 210. (No. 2876.)

EUPATORIUM SUBSCANDENS Hieronymus, Bot. Jahrb. 21: 742. 1897. (No. 2050 p.p.) The same as No. 1208, distributed as *E. conyzoides* Vahl.

? EUPATORIUM VITALBAE DC. Prodr. 5: 163. "Climbing 8 or 10 ft. high, over shrubs, in dry clay and gravel, the flowers rose-colored." Coroico, August 20, 1894. (No. 2389.) This appears to be the same as *Glaziou* 12062.

EUPATORIUM HECATANTHIUM (DC.) Baker, in Mart. Fl. Bras. 6²: 365. (No. 2114a.) The same as *Rusby* 2125, published as *E. macrophyllum* L. (*vide* Hieronymus, Bot. Jahrb. 11: 789. 1897).

Eupatorium heptanthum Sch.-Bip. (Bonplandia 4: 54; name only. 1856.)

Minutely puberulent; stems thickish but weak, purple below, the internodes 5-6 cm. long; petioles 0.5-1 cm. long, stout; blades 1.5-4 cm. long, 1-3 cm. broad, ovate, strongly cordate, acute, crenate-dentate, bright-green, the venation rather prominent below, finely reticulate; corymbs leafy, loose, the branches slender; peduncles of the heads stout, very short; heads 5 mm. long and rather broader; involucre hemispherical, the inner scales 5 mm. long, lance-oblong, acute, strongly nerved, green; corolla 3.5 mm. long, infundibular, the lobes broadly ovate, spreading; pappus sparse, white or reddish; akenes blackish, 2 mm. long, oblanceolate, little tapering at the base. (No. 2037.)

The same as *Mandon 260*, and apparently collected by *Seemann* in Venezuela.

***Eupatorium jugipaniculatum* sp. nov.**

Stems rather slender, striate, pubescent, the branches of the inflorescence slightly ferruginous; petioles 1 cm. long, pubescent like the midrib on both surfaces and the veins underneath; blades 8–15 cm. long, 3–6 cm. broad, oval to obovate, narrowed but mostly blunt at the base, abruptly short-pointed and obtuse at the apex, serrate with small, sharp, salient teeth, deep-green both surfaces, sparsely strigose; corymbs peduncled, nearly 1 dm. broad, of several regular pairs of rather distant branches which are leafy-bracted at the base, loose; peduncles of the heads 0.5–1 cm. long, slender and weak, filiform-bracted; heads at maturity nearly 1 cm. long and almost as broad; involucre turbinate-campanulate, nearly equaling the pappus, a few small scales at the base, the principal ones 5–6 mm. long, linear, attenuate from the base, strongly nerved, ferruginous-pilose; akenes 3–4 mm. long, oblong-ob lanceolate with a narrow base, lightly curved, sharply 5-angled; pappus 4–5 mm. long, white or slightly tawny, serrate; corolla 4–5 mm. long, the tube cylindraceous, the lobes 1 mm. long; style-branches 4 mm. long, flattened, rounded at the apex.

“A shrub 6–8 ft. high, with white flowers, in wet forest-mould.”
Coroico, September, 1894. (*No. 2471.*)

***Eupatorium triosteifolium* sp. nov.**

Finely tomentellate, except the sub-glabrous upper leaf-surfaces; stems stout, coarsely angled; upper leaves 1.5–3 dm. long, 4–10 cm. broad, ovate, abruptly contracted into a connate, petiole-like base more than half as long as the ovate portion, acute at the apex, coarsely and sharply serrate, thin and fragile, dark-green above, pale or grayish underneath, the midrib and 6 or 7 pairs of secondaries prominent underneath, broad and flat; corymbs terminal and lateral, the latter on long, widely spreading peduncles, about 1 dm. broad, rather dense, compound and leafy; peduncles of the heads 1–1.5 cm. long, slightly thickened upward; heads nearly 1 cm. long, nearly as broad; involucre campanulate, the scales oblong to oblong-linear, obtuse, the outer successively shorter, green, nerved, the innermost exceeding the pappus, white, the green nerves very strong; flowers numerous, yellowish-white; akene 2 mm. long, linear-oblong, truncate, blackish, strongly 5-angled, lightly curved; pappus 4–5 mm. long, rather unequal, white, rather scanty, short-barbellate; corolla infundibular, the lobes less than 1 mm. long, acute, pilose toward the summit; filaments inserted about the middle of the tube, the anther-appendages short, blunt, inflexed; receptacle plane or slightly concave, tuberculate; style-branches flattened, sub-truncate, papillose.

"A slender shrub, 10 to 12 ft. high, with white flowers; scarce in gravel and mould near the river." Coroico, August 14, 1894. (No. 2380.)

Eupatorium latipaniculatum sp. nov.

Younger portions of stem, peduncles and midribs puberulent; branches elongated, very widely spreading; leaves 2 dm. or more long, 6-8 cm. broad, the bases long-acuminate and petiole-like, sub-confluent, apex acuminate, margin coarsely and sharply serrate, thin, deep-green, somewhat scurfy both sides; peduncles of the lower axillary corymbs 1.5 dm. long, the corymbs rather lax, 1 dm. broad; peduncles of the heads 0.5-1 cm. long, purplish, thickened at the summit; heads nearly 1 cm. long, and a half broader; involucre of about 20 scales, loose, the inner 3 mm. long, narrowly lanceolate, acute, purplish; corolla 4 mm. long, narrowly infundibular, purple; pappus equaling the corolla, white, fine, copious; akene oblanceolate, slender, nearly 2 mm. long, black, smooth, sharply angled.

"A slender shrub, 6 to 10 feet high, with rose-colored flowers, in rich shaded mould." Sacramento, Yungas, August 20, 1894. (No. 2386.) Species near *E. ianthinum*.

Eupatorium capitatum sp. nov.

Puberulent throughout; stems weak, much-branched, the branches widely spreading or drooping, apparently reclining, striate; petioles 1.5-4 cm. long, slender and weak, little dilated at the base; blades 3-7 cm. long, 1.5-3 cm. broad, ovate, mostly inequilateral, rounded or subcordate at the base, obtuse or acutish at the apex, coarsely serrate with short blunt teeth, deep-green above, grayish-green underneath, thin, trinerved, the venation coarse, reticulate, rather prominent underneath; heads few, very loosely corymbed, on peduncles 2-3 cm. long, 1 cm. long and a half broader; involucre of 20-25 scales, broad, loose, the scales 7 mm. long, oblong, deep-green, strongly 3-nerved, acute; corolla nearly 4 mm. long, narrowly infundibular, the margin much broader than the tube; style-branches exerted 2-3 mm.; pappus white, fine, copious, nearly equaling the corolla; akene 5 mm. long, tapering from the summit to an acute base, black, glabrous, strongly and sharply angled.

"A few feet high, the flowers light red; scarce, in dry gravelly soil." Coripata, Yungas, March 25, 1894. (No. 2114.)

Eupatorium gynoxioides sp. nov.

Very finely and closely puberulent; stems stout, purplish, the upper internodes about 3 cm. long; upper leaves only seen, their petioles 3 cm. long, purple, stout, narrowly margined and keeled; blades 1-1.5 dm. long, 4-6 cm. broad, ovate, abruptly acute at the base, shortly and bluntly acuminate at the apex, obsoletely and very

coarsely sinuately serrate, coriaceous, above deep-green or purplish, minutely strigose, underneath ferruginous, the venation lightly prominent both sides, the slender, crooked secondaries about 6 or 7 pairs; panicles corymbiform, 1 dm. or more broad, rather dense, the branches striate, the bracts linear-subulate, small; heads peduncled, the peduncles striate or angled, at length 1 cm. or more long; heads 8 mm. long and about as broad, the involucre campanulate; scales in about 3 series, closely appressed, the outer shorter, the inner 5 mm. long, thick, rigid, striate, oblong, obtuse, mostly purple-tipped; corollas 4-5 mm. long, cylindraceous, slightly dilated toward the summit, the lobes short, recurved; pappus sparse, white, about equaling the corolla; style-branches exerted nearly 4 mm., slightly thickened at the summit; akenes 2.5 mm. long, oblanceolate with tapering base, black, glabrous, strongly angled.

“A scarce tree, 15 to 20 ft. high, with light-red flowers, in wet forest mould.” Coripata, Yungas, May 16, 1894. (No. 2194.)

OPHRYOSPORUS PIQUEROIDES (DC.) Benth.; Mart. Fl. Bras. 6²: 188. (*Eupatorium piquerioides* DC. Prodr. 5: 175.) “Climbing 6 ft. high, in sunny places, in clay and mould; abundant; flowers white.” Calapampa, Coroico, July 14, 1894. (No. 2342.) Distributed as “*Mikania* sp. nov.”

WILLOUGHBYA CORDIFOLIA (L. f.) Kuntze, Rev. Gen. Pl. 372. (*Cacalia cordifolia* L. f. Suppl. 357.) (Nos. 2880 and 2881.)

WILLOUGHBYA HIRSUTISSIMA (DC.) Kuntze, Rev. Gen. Pl. 372. (*Mikania hirsutissima* DC. Prodr. 5: 200.) “In rich mould, forest shade, climbing 10 to 12 feet, the flowers greenish-white, abundant.” Calapampa, July 5, 1894. (No. 2326.) The same as *Blanchet* 3692.

WILLOUGHBYA LANUGINOSA (DC.) Kuntze, Rev. Gen. Pl. 372. (Specimen without number.) The same as *Gardner* 5779.

WILLOUGHBYA ODORATA (Lehm.) Kuntze, Rev. Gen. Pl. 372. (*Mikania odorata* Lehm. Hamb. Gartenz. 5: 369. 1847.) “In rich forest-mould, near river, climbing 6 to 10 ft. high, the flowers white; abundant.” Calapampa, July 12, 1894. (No. 2339.) The same collected by *Mathews* at Chachapoya.

WILLOUGHBYA PSILOSTACHYA (DC.) Kuntze, Rev. Gen. Pl. 372. “Growing in wet sand and climbing 10 to 20 ft. high, the flowers white; scarce.” Coripata, April 20, 1894. (No. 2148.)

WILLOUGHBYA SCANDENS (L.) Kuntze, Rev. Gen. Pl. 371. (*Eupatorium scandens* L. Sp. Pl. 836.) (No. 2892.)

Willoughbya trinervis (H. & A.). *Mikania trinervis* H. & A. Hook. Comp. Bot. Mag. 1: 244. 1835. (No. 2884.)

Willoughbya trifolia sp. nov.

Branchlets, lower leaf-surfaces and peduncles minutely puberulent; branchlets short, stout, strongly spreading or divaricate, angled, the leaves opposite (or in threes in Mandon's specimens); petioles 2-3 cm. long, stoutish; blades ternate or quinate, the divisions 1-3 cm. long, 0.5-1.5 cm. broad, obovate with cuneate base, blunt, coarsely (mostly 1- to 3-) lobed, thin, dark-green, the principal veins lightly prominent on both sides; corymbs mostly 3-6 cm. broad, dense; peduncles of the heads 2-4 mm. long; involucre scales 5 mm. long, 2 mm. broad, oblong, abruptly and acutely pointed, tricostate; akene dark-brown to black, nearly 3 mm. long, strongly angled; pappus 4 mm. long, copious, rigid, rather coarse; corolla-tube slender, 2.5 mm. long, the lobes spreading, 1.5 mm. long, oblong; style-branches filiform, spreading widely, 3 mm. long.

"A low climber, with white flowers, in wet forest-mould, scarce."

Coroico, September 10, 1894. (*No.* 2426.) The same as *Mandon* 266, which Schultz-Bipontinus has called, without description, *Mikania trifolia* (Linnaea 34: 535. 1865-66).

Willoughbya longiflora sp. nov.

Ferruginous-tomentose; stems and branches stout; petioles 4-8 cm. long, very stout; blades 1-1.5 dm. long, two-thirds as broad, ovate, deeply cordate, acute, thin, dark-green and slightly scabrous above, ferruginous-tomentose underneath, 3- or 5-costate, the principal veins very strong and prominent underneath; peduncles much elongated, angled; corymbs 1-1.5 dm. broad, lax and open; peduncles of the heads scarcely any; scales of the involucre 6-7 mm. long, oblong, acute, 1- to 3-costate, green with scarious margins; akenes 2 mm. long, strongly angled; pappus 6 mm. long, copious, coarse, white; corolla about the length of the pappus, the lobes 2 mm. long; anthers very thick and prominent; style-branches 3 mm. long.

"Climbing 8 to 10 ft. in forest shade, the flowers greenish-white; scarce." Calapampa, near Coroico, July 5, 1894. (*No.* 2325.) Also *no.* 2297.

Willoughbya leucophylla sp. nov.

Glabrous except for the finely white-scurfy veinlets underneath; branchlets stoutish, finely and regularly costate, pale; stipules rhomboidally ovate, recurved into a pouch-like form, the pouch ovoid, 1 cm. long, 5 mm. broad, coriaceous, brown with numerous light ribs or striae; petioles 2-4 cm. long, slender; blades 0.6-1.2 dm. long, 3-6 cm. broad, ovate, strongly cordate, abruptly and slenderly acuminate but scarcely acute, the margin obscurely sinuate, coriaceous, dark-green above, whitish underneath, 5-ribbed, the principal branches meeting at some distance from the margin,

the veinlets finely and conspicuously reticulate; peduncles stout; corymbs 0.6–1.2 dm. broad, open, the branchlets densely flowered, bracted with lanceolate or linear bracts; peduncles of the heads 5–8 mm. long, slender; scales of the involucre 8 mm. long, 3 mm. broad, oblanceolate, obtuse, faintly striate, the margins scarious; akenes 5 mm. long; pappus 7 mm. long, copious; corolla stoutly infundibular, a little longer than the akene, the lobes short, broadly ovate; anthers exerted 3 mm.; style-branches 4 mm. long, twisted. (*No.* 2241.)

Willoughbya Hieronymi sp. nov.

Tomentose and slightly ferruginous; stems and branchlets very stout, purple; petioles 3–4 cm. long, very stout, the upper half broadly winged by the decurrent blade; blades 1 dm. or more long and broad, triangular-ovate, cordate, the base decurrent, abruptly very short-pointed, membranaceous but thickish, dark-green and scabrous above, yellowish-gray-tomentose underneath, 3- or 5-costate, the lateral ribs originating near the base of the midrib, finely reticulate; corymbs of very irregular size, dense, very stoutly peduncled; heads sessile in threes; involucreal scales 6 mm. long, oblanceolate, rounded at the apex, dark purple-green; akene 2 mm. long; pappus 7 mm. long, copious, coarse, dark-brown; corolla-tube 3.5 mm. long, the lobes (greenish) 2.5 mm. long, ovate, obtuse; style-branches 1.5 mm. long.

“Prostrate in wet, clayey soil, the flowers bluish-green; scarce.”
Coripata, Yungas, April 28, 1894. (*No.* 2169.)

SOLIDAGO POLYGLOSSA DC. Prodr. 5: 332. (*Nos.* 2049 and 2980.) “A few feet high, growing in yellow clay, coca plantations and other cultivated places, the flowers yellow.” Near Coripata, March 15, 1894.

Diplostephium Mandoni sp. nov.

Shrubby, the branchlets crowded, stout but weak, ascending, very leafy; leaves sessile by a narrowed, petiole-like base, 3–5 cm. long, 6–12 mm. broad, smaller toward the base and summit of the branchlet, lanceolate, obtusish or barely acute, coriaceous, deep-green and glabrous above, with the venation deeply impressed, thickly yellow-tomentose with the venation concealed underneath; heads subsessile among the crowded terminal leaves; involucre 1 cm. long, broadly campanulate, many-serialled, the scales lanceolate, acuminate, very thick, strongly recurved, purple, gray-pilose, the inner linear, the outer successively shorter, the outermost lanceolate; akenes uniform, 1 mm. long, turbinate-obovoid; pappus similar in both flowers, 5–6 mm. long, flexuous, purple, the outer very short indeed, scarcely perceptible; corolla nearly 1.5 cm. long, 2 mm. broad, the apex narrowed abruptly, slightly 3-toothed; exerted portion of style 3 mm. long, its branches 1.5 mm. long; disk-corollas purple, the

lower cylindraceous portion nearly 2 mm. long, the upper broadly infundibular portion 3 mm. long, the lobes 1 mm. long and broad, ovate-obtuse; style-branches 1.5 mm. long; anthers nearly 2 mm. long. (*No.* 2895.)

The same as *Mandon* 219.

***Diplostephium liabioides* sp. nov.**

Closely short ferruginous-tomentose, the upper leaf-surfaces becoming glabrous; branches stoutish but weak, erect or ascending, purple, terete, densely leafy; leaves sessile by a narrowed, petiole-like base, 3-6 cm. long, 0.5-1.5 cm. broad, oblong, obtusish, but minutely apiculate, sharply and rather coarsely and distantly serrate, thick, bright-green above, with the midrib impressed, deep-purple underneath, the midrib very prominent, the venation slender, reticulate; corymb small, dense, leafy at the base; peduncles of the heads short and stout; involucre hemispherical-campanulate, about 9 mm. long, the outer scales successively shorter, the two outermost series abruptly shorter, broader, ovate, green, the others lanceolate, purple, all rigid and acute; receptacle plane, foveolate; akenes similar in both flowers, short-obovoid, obscurely angled; pappus of the ray-flowers 6 mm. long, of the disk-flowers 4-5 mm. long, purple, coarse, short-barbellate; rays white, the limb about 1 cm. long, linear-oblanccolate, emarginate; style-branches recurved; short-lanceolate, flattened, obtuse, hirtellate toward the summit; disk-corollas purple, 5 mm. long, broadly infundibular, the lobes 1 mm. long, ovate; anthers nearly 3 mm. long, the appendages short, obtusish; style-branches 2 mm. long, flattened, acutish, the upper half long-pilose.

"A low shrub with blue flowers, in forest-mould." Unduavi, September, 1894. (*No.* 2496.)

***Diplostephium atropurpureum* sp. nov.**

Shrubby; branchlets, lower leaf-surfaces, etc., densely and closely yellow-tomentose, the lower leaf-surfaces sparingly and the involucre more abundantly gray-scurfy also; branchlets leafy, angled; leaves 2.5-6 cm. long, 0.5-1 cm. broad, lance-oblong, tapering into a petiole-like base, obtuse, appearing acute by the revolute margins, entire, very thick, glabrous and finely wrinkled in drying above, with the midrib and primaries sharply impressed, the midrib very stout and prominent underneath, with the venation obscure; inflorescence terminal, loosely corymbose; peduncles of the heads 1-2 cm. long, very stout, terete, with one to several small leafy bracts; involucre campanulate, squarrose, the obtuse scales thick and coriaceous, deep-purple, 1-nerved, the outermost short-ovate, the inner successively longer, the innermost 1 cm. or more long, linear; receptacle convex, foveolate, chaffy in the center, the scales narrow and fimbriate; akenes uniform, 1.5 mm. long, 1 mm. broad, obovoid, hispid, slightly compressed, ob

scurely angled; pappus of both flowers alike, 7-8 mm. long, purple, barbellate, the outer very short; rays nearly 2 cm. long, 1.5 mm. wide, slightly 3-toothed, white; style red, thickish, exerted about 5 mm., the branches 1.5 mm. long, linear, lightly flattened, slightly narrowed toward the apex; disk-corollas whitish toward the base, bright-purple above, pubescent, the lower narrow-cylindrical portion 2 mm. long, the remainder 5 mm. long, about twice as broad as the lower part, infundibular, the strongly recurved lobes 1 mm. long, thickish, acutish; anthers 3 mm. long, the yellow apical appendages nearly 1 mm. long, narrow, obtuse; style-branches about 1 mm. long, subulate, flattened, pilose. (*No.* 2030.)

Differs from *D. Mandoni* in the longer tomentum, midrib prominent underneath, narrower involucre-scales, shorter rays, shorter and broader disk-corollas with broader lobes, and shorter styles. *Mandon* 215 and *Pearce's* specimen from Munya, May, 1863, are very similar externally, and may be the same.

ERIGERON HIERACIODES Wedd. Chlor. And. 1: 194. (*No.* 1865.) The same as *no.* 1219.

ERIGERON PAZENSIS Sch.-Bip.; Rusby, Mem. Torrey Club 3: 54. (*No.* 2874, *pp.*) The same as *nos.* 14 and 67.

? ERIGERON CANESCENS Sch.-Bip.; Linnaea 34: 534. 1865-66. (Specimen without number.)

CONYZA ANDICOLA Philippi, Verzeichn. Pfl. Antofagasta und Tarapaca 38. (*No.* 1973.)

Conyza lignescens sp. nov.

Minutely puberulent; stems woody and branched at the base, 3-5 dm. long, the branches erect, stout, angled; leaves 4-8 cm. long, 0.7-2 cm. broad, oblanceolate, tapering into a winged petiole which is attached by a dilated base, blunt at the apex, finely and rather obtusely serrate, thickish but flaccid, drying yellowish, strongly 3-nerved, coarsely reticulate; corymbs terminal, 2-8 cm. broad, rather dense; peduncles of the heads 0.5-1 cm. long, thickened at the summit, striate; heads 7 mm. long and broad; involucre 4 mm. long, hemispherical-campanulate, the scales about 2-serialled, ovate, obtusish, purple with scarious margins; pappus tawny, very fine; corolla of the pistillate flowers 1.5 mm. long, the style as much longer, the pappus about as long as the style, the akene 0.5 mm. long; corolla of the perfect flowers 2 mm. long, nearly equaling the style. (*No.* 2873.)

Conyza evacioides sp. nov.

Densely white-floccose, the hairs long and tough; root finely branched; stems numerous from a stout crown, ascending, 1-2 dm. long, mostly simple, densely leafy, the leaves erect, sessile, oblan-

ceolate, 1-2 cm. long, 4-5 mm. broad, thickish, narrowed and sub-entire toward the base, above pinnatifid-toothed or lobed, the lobes 2 or 3 pairs, ovate, slightly falcate, obtusish or acute; heads several, at and near the summit, partly concealed among the upper leaves, appearing sessile but short-peduncled; involucre hemispherical, the scales several-serialled, lanceolate, acute, green below, scarious and purple above with darker middle portion; akenes 0.5 mm. long, oval; pappus 3.5 mm. long, plumose; pistillate corollas 2 mm. long, the others 1.5 mm. long, broadly infundibular, lobed half-way; style-branches short, thickish, the appendages triangular, pubescent. (*No.* 1875.)

BACCHARIS CAESPITOSA (R. & P.) Pers. Syn. 1: 425. (*Molina caespitosa* R. & P. Syst. Veg. 203.) (*No.* 1834.)

BACCHARIS DRACUNCULIFOLIA DC. Prodr. 5: 421. "A shrub 6 to 10 ft. high, growing in dry gravel and clay, with white flowers; abundant." Coripata, May 15, 1894. (*No.* 2193. Also *no.* 2890 ?)

BACCHARIS MAPIRENSIS Rusby, Mem. Torrey Club 6: 61. (*No.* 2288, which is the same as *no.* 1481. *No.* 2452 has oblong, blunt leaves, but *Rusby* 1575 has some of the leaves similar, while others are like the type, and it seems to connect the two forms.) Of *no.* 2452 Mr. Bang says: "A shrub, 6 to 8 ft. high, with white flowers, growing in forest-mould near the river." Coroico, September, 1894.

BACCHARIS FLORIBUNDA H.B.K. Nov. Gen. 4: 64. (*No.* 2885.) The same as *Rusby* 1583.

BACCHARIS MICROPHYLLA PULVERULENTA Rusby, Mem. Torrey Club 3³: 56. (*No.* 2891.) The same as *no.* 74.

BACCHARIS TRINERVIS (Lam.) Pers. Syn. 2: 423. (*Conyza trinervis* Lam. Encyc. 2: 85.) (*No.* 2892.) The same as *no.* 512.

BACCHARIS SCANDENS (R. & P.) Pers. Syn. 2: 424. (*No.* 1925.)

Baccharis syncephala Sch.-Bip. (Bonplandia 4: 54; name only. 1856.)

Lower leaf-surfaces, peduncles, involucre, etc., minutely granular; branches very stout, strongly costate or angled, blackish, densely leafy; petioles 1 cm. or more long, consisting of the narrowed leaf-bases, attached by a base 3-4 mm. broad; blades 5-7 cm. long, 1.5-3 cm. broad, oblong, abruptly narrowed into a broadly winged petiole, obtuse, coarsely serrate, the teeth about 3 pairs, short, broad, rounded; blades thick and coriaceous, pale-green, the midrib strong, winged by the decurrent secondaries, of which there are about 7 pairs of principal, alternating with about three times as many

lesser ones, slender, strongly ascending, connecting near the margin; panicle sessile, 5-7 cm. long, 7-9 cm. broad, very dense; heads subsessile; involucre 5 mm. long and broad, turbinate, the scales in numerous series, green with brown tips, oblong or ovate, rounded at the apex, thick and rigid; only hermaphrodite flowers seen, the akenes present but short; pappus scanty, crooked, rough, 3 mm. long; corollas 3-4 mm. long, the lobes 1 mm. long, strongly recurved; anthers 1 mm. long, exserted, the thickish style-branches projecting nearly 1 mm. (No. 2261.)

Baccharis saliens sp. nov.

Coarsely ferruginous-tomentose, except the upper leaf-surfaces; branches very stout, erect or strongly ascending, striate; petioles 0.5-1 cm. long, stout, narrowly channeled above; blades 3.5-5 cm. long, 1.5-2.5 cm. broad, ovate, rounded at the base, abruptly short-pointed and acutish or obtusish at the apex, finely and very sharply and slenderly dentate, the teeth at length divergent; thick and rigid, deep-green, 3-nerved by the lowest pair of secondaries, which connect with the second pair a little above the middle of the leaf and about one-third of the way from the margin to the midrib, finely and strongly reticulate, glabrous above with the principal veins plane or lightly impressed, ferruginous underneath upon the veins which are very prominent; panicles or their principal branches 5-7 cm. long, 4-6 cm. broad, pyramidal, dense, the heads sessile; involucre 6 mm. long, broadly campanulate, the scales in about 6 series, ovate or lanceolate, acuminate and acute or attenuate, the inner successively longer, more slender and lighter; akenes 1 mm. long, dark-brown, rather stout; pappus copious, fine, white, 4 mm. long; corolla very slender, a little more than 2 mm. long, the lobes very short; pistil exserted nearly 2 mm., the lobes of the style dark, 0.5 mm. long, erect.

"Scarce in wet forest-mould: climbing; flowers white." Unduavi, September, 1894. (No. 2493.)

? **ACHYROCLINE ALATA** DC. Prodr. 6: 221. (Specimen without number.) Apparently the same as *Mandon* 158, but the heads much smaller than in *Bridges'* specimen from Bolivia.

? **ACHYROCLINE CELOSIODES** (H.B.K.) DC. Prodr. 6: 221. (*Gnaphalium celosioides*, H.B.K. Nov. Gen. 4: 78. pl. 329.) (Specimen without number.) "Growing a few feet high, in very dry rock, the flowers white; scarce." Coripata, April 10, 1894. (No. 2022.)

ACHYROCLINE RUFESCENS DC. Prodr. 6: 220. (Specimen without number.) The same collected by *Pearce* in the Andes of Ecuador, 12,000-13,000 ft.

ACHYROCLINE VAUTHERIANA DC. Prodr. 6: 220. (No. 2278.) (The same as *Gardner* 4261?)

Achyrocline polycephala sp. nov.

Stems weak, much elongated, widely branched, densely and rather long yellowish-tomentose; leaves 5-9 cm. long, 1-3 cm. broad, oblong, sessile by a narrow base, acute, above deep-green, papillose, pubescent when young, underneath densely yellow-tomentose, the venation inconspicuous; flowers densely paniced in rather large glomerules; heads 3 mm. long, the scales oval, obtuse, hyaline, green at the base; scales less than 0.5 mm. long, oval; corolla 3.5 mm. long, narrowly cylindraceous, white, the lobes brown, spreading, about as long as the akene.

"In dry gravelly soil, climbing 5 or 6 feet, the flowers white." Coroico, July 11, 1894. (No. 2136.)

Species very near *A. deflexa*. Superficially much like the last, but the corollas quite distinct.

Achyrocline tomentosa sp. nov.

Stems rather stout, woody at the base, terete, striate, softly and closely gray-tomentose, much branched, the branches mostly erect or strongly ascending, flexuous, 2-3 cm. long; leaves 3-6 cm. long, 0.6-1.5 cm. broad, the floral smaller, the blade proper regularly and rather angularly lanceolate, tapering into a petiole-like base which is not, or little, dilated at the insertion, acute at the apex, bright-green but grayish-tomentose above, densely yellow-tomentose underneath, the midrib inclined to a purple color, rather prominent both sides, specially underneath, the venation obscure; panicles leafy, broad and open, mostly 6-8 cm. long and rather broader, the heads densely clustered at the ends of the branches, the ultimate clusters 4-5 mm. broad, yellow-tomentose at the base; head 3 mm. long, the scales broadly ovate, acute, hyaline; akene and corolla together less than 2 mm. long, the akene short, broad, dark-purple or blackish, one-half as long as the broadly cylindraceous corolla.

"A small plant, a few feet high, with white flowers; rather scarce in very dry soil on rocks." Coripata, April 10, 1894. (No. 2124.)

? GNAPHALIUM CHEIRANTHIFOLIUM Lam. Encyc. 2: 752. (Nos. 2011, 2041 p.p. and 2633.)

GNAPHALIUM CYMATOIDES Kunze; DC. Prodr. 6: 225. (No. 2040.)

GNAPHALIUM SPICATUM Lam. Encyc. 2: 757. (No. 2896.)

LUCILIA AFFINIS Wedd. Chlor. And. 1: 230. (Specimen without number.) The same as *Mandon 168*.

? LUCILIA SQUARROSA Baker, in Mart. Fl. Bras. 6^a: 114. (Specimen without number.) Apparently the same as *Glazion 8129* and *17046*.)

Chevreulia elegans sp. nov.

Stems and lower leaf-surfaces densely white-tomentose; stems very slender, creeping, densely leafy; leaves sessile, 0.7–1.5 cm. long, 2–4 mm. broad (on some shoots a half narrower, on others twice as broad), oblong, the apex cuspidate and pungent, green and somewhat pilose on the upper surfaces, 1-nerved; heads short-peduncled; involucre turbinate-campanulate, 7–9 mm. long, the scales pale-green, some with purple apex, subglabrous, lanceolate, obtuse, the outer shorter; akenes 3 mm. long, slenderly lanceolate and attenuate; pappus 5 mm. long, copious, white, very little coherent at the base; corolla 5 mm. long, very slender, pale-purple, darker at the summit.

“Rather scarce in dry soil along roadsides.” Coripata, Yungas, March 20, 1894. (No. 2100.)

POLYMNIA GLABRA DC. Prodr. 5: 515. (No. 1813.) The same as *Mandon* 30.

ECLIPTA ALBA (L.) Hassk. Pl. Jav. Rar. 528. (*Verbesina alba* L. Sp. Pl. 90. *Eclipta erecta* L. Mant. 2: 286.) “In wet gravelly clay; flowers white; scarce.” Near Coripata, February 20, 1894. (No. 2071.)

VERBESINA DIVERSIFOLIA DC. Prodr. 5: 615. “Grows 10 to 15 ft. high, in good soil along roadsides, the flowers white; abundant.” Coripata, April 20, 1894. (No. 2135.)

VERBESINA SORATAE Sch.-Bip.; Robinson, Proc. Am. Acad. 34: 551. 1899. (No. 2036.) The same as *Rusby* 1732.

SPILANTHES ACMELLA (L.) Murr. Syst. ed. 13. 610. (*Verbesina acmella* L. Sp. Pl. 901.) (No. 2024.) The same as *Rusby* 919.

SALMEA MIKANIOIDES Britton Bull. Torrey Club 19: 150. 1892. “Climbing 15 to 20 ft. on trees, in wet mould, the flowers yellow.” Coripata, April 4, 1894. (No. 2120.) The same as *Rusby* 1488.

HETEROSPERMUM DIVERSIFOLIUM H.B.K. Nov. Gen. 4: 226. (No. 2032.) The same as *Spruce* 5788.

HETEROSPERMUM RHOMBIFOLIUM Griseb. Goett. Abh. 19: 187. 1874. (Specimen without number.)

BIDENS SQUARROSA H.B.K. Nov. Gen. 4: 238. (No. 2031.) The same as *Mandon* 53 and *Linden* 487 from Caracas.

Bidens pallida sp. nov.

Softly and shortly gray-pubescent throughout; branches elongated, stoutish, pale, finely striate; leaves trifoliate, the petioles 2–3 cm. long, stout, striate, divaricate or lightly deflexed; lateral

leaflets sessile, 4-6 cm. long, 2-3.5 cm. broad, ovate, inequilateral, lightly cordate, acute, finely serrate, the teeth broadly ovate and mucronate, their sinuses acute, the venation pale, little prominent; terminal leaflets 7-10 cm. long, 3-5 cm. broad, petioluled, otherwise like the lateral; corymbs about 5 cm. broad, very loose, few-flowered, appearing axillary, but terminating the short branches; involucre 5-6 mm. long, hemispherical-campanulate, very loose, the scales lance-ovate, obtusish, strongly 3- to 5-nerved; rays more than 1 cm. long, 6 mm. broad, ovate, thickish, strongly 7-nerved; scales of the disk linear, obtusish, 7 mm. long, 1 mm. broad; akene (in young flower) 2 mm. long, 0.8 mm. broad; pappus 3 mm. long, slender; corolla 5 mm. long, infundibular, the lobes 1 mm. long.

"Climbing 5 to 10 feet over hedges by the roadside; abundant. Flowers yellow." Coripata, Yungas, April 25, 1899. (*No.* 2152.)

CALEA CYMOSA Less. *Linnaea* 5: 158. 1830. (Specimen without number.)

TRIDAX PROCUMBENS L. Sp. Pl. 900. "A small plant, growing abundantly in coca plantations, the flowers white." Coripata, May 3, 1894. (*No.* 2174.)

VILLANOVA OPPOSITIFOLIA Lag. Gen. et Sp. Nov. 31. (Nos. 1807 and 2893.) The same as *Mandon* 74.

FLAVERIA CHILENSIS J. F. Gmel. Syst. 1269. (*No.* 2026.) The same as *no.* 968.

TAGETES PUSILLA H.B.K. Nov. Gen. 4: 194. "In dry gravel along roadsides, the flowers yellowish-green." Coripata, March 20, 1894. (*No.* 2099.)

TAGETES MULTIFLORA H.B.K. Nov. Gen. 4: 197. (*No.* 2637.) The same as *no.* 53a.

TAGETES MANDONI Sch.-Bip.; Rusby, Mem. Torrey Club 6: 64. (*No.* 2636.) The same as *no.* 1111.

Pectis substriata sp. nov.

Root stout, vertical, much-branched; stems numerous, erect or ascending, deep-purple, striate, minutely puberulent, very leafy; leaves clasping, 2-4 cm. long, 2-4 mm. broad, tapering from the base to an acute point, entire above, becoming long-setiferous basally, erect, thick and rigid, deep-green, bearing (mostly 2) rows of very large black glands; inflorescence loosely racemiform; peduncles of the heads about 5 mm. long, erect, sharply 4-angled; involucre campanulate, 8 mm. long, the scales 4, ovate, acutish, keeled, the keel rounded, very stout at the base; receptacle 1 mm. broad, sub-globular, black-foveolate; akenes 3 mm. long, oblanceolate, black, appressed-hispid; pappus tawny, coarse, 4 or 5 mm. long, serrate, scanty; some bristles shorter, but without intermixed

scales, the bristles somewhat dilated at the base, those of the ray-flowers much fewer; ray-corollas 7 to 9 mm. long, rather narrow; disk-corollas 5-6 mm. long, cylindraceous-infundibular, the lobes elongated. (*No.* 2117.)

"On dry hills, the flowers yellow. Local name 'Quichamale,' and much used as a blood-purifier." Coripata, Yungas, March 28, 1894.

CHRYSANTHEMUM PARTHENIUM (L.) Pers. Syn. 2: 462. (Specimen without number.)

LIABUM HASTIFOLIUM Poepp. & Endl. Nov. Gen. et Sp. 3: 43.

"Grows 4 to 6 ft. high, with bright-yellow flowers, in cultivated ground." Uchimachi, August 20, 1894. (*No.* 2390.) The same as *Rusby* 1743.

LIABUM OVATUM (Wedd.); Ball, Jour. Linn. Soc. 22: 46. 1885. (*Paranephelius ovatus* Wedd. Chlor. And. 1: 214.) (*No.* 1842.)

LIABUM RUSBYI Britton, Bull. Torrey Club 19: 263. 1892. (*No.* 1913.)

Liabum (*Munnozia*) *giganteum* sp. nov.

Densely, the upper leaf-surfaces slightly, floccose and yellowish-white; stems very coarse and stout, but weak; petioles (only the upper seen) 0.5-1 dm. long, very stout, the narrow margins connate at the base; blades 1-2 dm. long, and about as broad, triangular, the base truncate, toothed like the rest of the margin, the basal angles outwardly and somewhat downwardly prolonged, acute at the apex, very coarsely toothed, the teeth acute, the sinuses rounded and shallow; leaf very thin, coarsely and broadly 3-costate from near the base; uppermost leaves small, ovate; peduncles axillary, erect, about 1 dm. long, about 10-flowered, bracted, the bracts linear, attenuate, 1-3 cm. long; peduncles of the heads 2-4 cm. long, weak; involucre 1.5-2 cm. long, hemispherical, double, the outer white-floccose, the inner green, the outer scales ovate, acuminate and acute, nerved, the inner lanceolate, successively shorter and narrower, and more chartaceous; rays in several rows, pistillate, fertile, the akene very short, short-pilose, 5-nerved, the pappus 6-7 mm. long, not very copious, rather coarse, serrate, tawny; ray 1.2 cm. long, narrow, pilose; style 3 mm. shorter than the corolla, the branches 2 mm. long, puberulent, linear, lightly flattened; akene and pappus of the disk-flowers similar, the corolla 7 mm. long, narrowly infundibular, pilose, the lobes 1.5 mm. long, oblong; anthers 1.2 mm. long, acuminate, the base entire; receptacle plane, naked.

"Plant 2 to 6 ft. high, in wet, shaded situations as a weed in cultivated ground, the flowers yellow." Sacramento, Yungas, August 14, 1894. (*No.* 2379.)

The same collected by *Pearce* in the valley of Santa Cruz.

SCHISTOCARPHA PANICULATA Klatt, Bull. Soc. Bot. Belg. 31¹: 210. 1892. (Distributed as "*Eupatorium Vautherianum*", and corrected by Dr. B. L. Robinson.) "Plant 2 to 4 ft. high, growing in wet clay and gravel, near river, the flowers yellow; scarce." Coripata, May 10, 1894. (*No.* 2184.) The same as *Rusby* 2126.

Schistocarpa (?) *triangularis* sp. nov.

Densely and closely ferruginous-tomentose, except the upper leaf-surfaces and involucre; stems very stout, coarsely angled; petioles (only upper seen) 3-4 cm. long, stout, lightly margined, strongly 3-costate, dilated and confluent at the base; blades 6-15 cm. long, 4-8 cm. broad, triangular-ovate, sub-truncate to sub-cordate at the base, acute at the apex, distantly dentate, the teeth very small and acute; coriaceous, above shining and glabrous except on the immersed veins, sub-3-nerved, the venation strongly reticulate, prominent underneath; corymbs axillary, on peduncles twice the length of their petioles, stout but weak, the corymbs dense, 5-6 cm. broad; peduncles of the heads about 5 mm. long; heads 8-10 mm. long, nearly as broad; involucre turbate-campanulate, 5 mm. long, the scales in many series, the outer successively shorter and broader, ovate-lanceolate, obtusish, green with white margins and mostly purple tips, thickish and rigid; ray-flowers white, pistillate, fertile, the akene glabrous, obovoid, 1 mm. long, the pappus yellowish, 4 or 5 mm. long with some shorter ones, rather scanty, coarse, barbellate; corolla nearly 1 mm. long, very slender and pilose below, the limb about half its length, 1 mm. wide, minutely 2-dentate or entire; style-branches 2 mm. long, spirally twisted, terete, papillose, truncate; akene and pappus of the disk-flowers similar, the corolla 7 mm. long, infundibular, the lobes equal, 1.5 mm. long, oblong, obtuse, the anthers caudate and acuminate at the base; receptacle convex, beset with whitish awned chaff.

"Climbing over shrubs in wet forest-mould, the flowers yellow." Unduavi, September, 1894. (*No.* 2477.)

ERECHTITES HIERACIFOLIA (L.) Raf.; DC. Prodr. 6: 294. (*Senecio hieracifolius* L. Sp. Pl. 866.) (*No.* 2878.)

ERECHTITES VALERIANIFOLIA (Wolf) DC. Prodr. 6: 295. (*Senecio valerianifolius* Wolf, Ind. Sem. Hort. Berol. (1825); Reichb. Ic. Bot. Exot. 1: 59.) "In wet clay, growing 3-5 ft. high, the flowers light-blue, abundant." Coripata, March 2, 1894. (*No.* 2068.)

CULCITUM CANESCENS H. & B. Pl. Aeq. 2: 4, pl. 67. (*No.*

1900.) This is much used in the higher Andean regions as a pectoral remedy.

SENECIO ANTENNARIA Wedd. Chlor. And. 1: 106. (No. 1883.)

The same as *Mandon 110*.

SENECIO FORMOSUS H.B.K. Nov. Gen. 4: 177. (No. 1958.)

The same as *Rusby 1672*.

SENECIO HOHENACKERI Sch.-Bip.: Wedd. Chlor. And. 1: 131.

(Specimen without number.) The same as *Mandon 145*.

SENECIO PENTLANDIANUS DC. Prodr. 6: 421. (No. 1877.)

SENECIO PRUNIFOLIUS Wedd. Chlor. And. 1: 102. (No. 2039.)

SENECIO SMITHII DC. Prodr. 6: 412. (*Cineraria gigantea* Sm.

Exot. Bot. 2 (1805), but the name *Senecio giganteus* is pre-occupied.) (No. 1969.)

Senecio multinervis Sch.-Bip. (Bull. Soc. Bot. Fr. 12: 80; name only. 1865.)

Stems and branches very stout, many-nerved, the younger portions short-shaggy, many of the hairs reflexed; leaves (only the upper seen) crowded, clasping by a narrowed, petiole-like base, 1.5-3 dm. long, 4.5-9 cm. broad, oblanceolate, acuminate or short-attenuate, very finely and sharply dentate with salient teeth, thickish and apparently fleshy, above bright-green, papillose and very shortly and sparsely hairy, the venation inconspicuous, underneath softly pilose or somewhat floccose, pale, the ferruginous (or purplish in Mandon's specimens) venation rather conspicuous, the secondaries about 30 pairs, lightly ascending, the veins strongly reticulate, broad; panicles terminal, short-peduncled, broad and corymbose, small (less than 1 dm. broad) and dense, or large (3 dm. broad) and rather lax, the branches bracted, the bracts lanceolate, attenuate; peduncles of the heads 0.5-1 cm. long, stoutish; heads nearly 1 cm. long and nearly a half broader as pressed; involucre hemispherical-campanulate, 6 mm. long, of few scales in one series; scales broadly oval-ovate, obtusish, brown with broad whitish margins; rays 7 mm. longer than the scales, reflexed, deep-yellow; akenes very short; tubular corollas infundibular.

"A shrub 6 to 8 ft. high, with yellow flowers, scarce in forest-mould." Unduavi, September, 1894. (No. 2495.)

Senecio octophyllus Sch.-Bip. (Linnaea 34: 531: name only. 1866.)

Densely tomentose; stems decumbent or ascending, stoutish, densely leafy; leaves 3-4 cm. long, 0.7-1.5 cm. broad, oblong, blunt, clasping, gray above, yellowish underneath with a very stout midrib and inconspicuous veins, thickish; heads few, corymbose at the summit, 1.5 cm. long, nearly 2 cm. broad, leafy-bracted;

involucre about as long as the flowers, the scales in two series; scales lanceolate, acutish; rays pale-yellow, little exceeding the involucre.

(Specimen without number; the same as *Lechler 2092* from Peru.)

Senecio Sepium Sch.-Bip. (Bull. Soc. Bot. Fr. 12: 80. 1865.)

Pubescent; stems weak, erect or ascending, nerved or costate, sparsely leafy except near the base; lower leaves petioled, the petioles slender, 1-2 cm. long, the blades 3-6 cm. long, 0.7-1.5 cm. broad, ovate, rounded to subcordate at the base, acuminate and obtusish, thin, dark-green above, paler beneath, the margin finely and sharply serrate, the sinuses broad and rounded; upper leaves similar but gradually more slender, with shorter, margined petioles, at length sessile or clasping; heads corymbose at the summit, the corymb 5-7 cm. broad, linear-bracted; peduncles of the heads 0.5-1 cm. long, slender, angled, thickened toward the summit; heads nearly 1 cm. long, 0.7 cm. broad; involucre campanulate, 12 mm. long, (or in Mandon's specimens 8 mm. long) 1-serialled or with a few small scales at the base; scales linear-attenuate, strongly 3-nerved; rays slender, nearly a half longer than the involucre; pappus very fine and copious, white.

(Specimen without number.) The same as *Mandon 133*.

Senecio biacuminatus sp. nov.

Glabrous except for the lightly floccose peduncles and branches of the inflorescence; stems woody, stout, coarsely angled above; upper leaves sessile by an acuminate base, the lower tapering into a winged petiole 1 or 2 cm. long, lance-oblong, 0.8-1.5 dm. long, 1.5-3 cm. broad, acuminate at both ends, very acute, thickish, sharply serrate toward the apex with appressed teeth, the terete, stout midrib and about 12 pairs of slender, very crooked secondaries prominent underneath; panicle large, pyramidal, the branches stoutish; peduncles of the heads erect, stout, angled, 1-2 cm. long; involucre campanulate, 1 cm. long, sub-2-serialled, the outer scales short and irregular, the inner oblanceolate to obovate, acute, nerved; rays fertile, 2.5 cm. long, bright-yellow, strongly 5-7-nerved; akene 3 mm. long; pappus 9 mm. long, fine, white, not copious; corolla infundibular, the limb rather abruptly campanulate, equaling the pappus. (*No. 1879*.)

This may be the same as *Mandon 147*. Mr. Bang sends another specimen, without number, with larger, sinuately serrate, clasping leaves, narrower involucre, the scales narrower and obtusish and the rays much smaller, which may be a variety of this.

Senecio oblanceolatus sp. nov.

Glabrous excepting the puberulent inflorescence and lower leaf-surfaces; stem stout, branched from near the base, the branches

ascending, stout, flexuous, somewhat angled, densely leafy; leaves sessile by a cuneate, petiole-like base, 7-10 cm. long, 1-2.5 cm. broad, oblanceolate, shortly and acutely pointed, sparsely and sharply fine-serrate, pale-green, especially underneath, where the stout midrib is prominent, thickish, the venation inconspicuous; heads rather few, solitary in the axils of distant leaf-like bracts; the peduncles 2-4 cm. long, slender, linear-bracted; involucre 1 cm. long, broadly turbinate-campanulate, 2-serialled, the outer series basal, very short; inner scales oblanceolate, acuminate and acute; rays not present; akenes 3 mm. long, sharply costate; pappus 8 mm. long, fine, white, copious; corolla 1 cm. long, the greenish tube one-half its length and dilated at the base, abruptly expanded into the broadly infundibular limb. (*No.* 2632.) Species near *S. Swartzii*.

***Senecio coroicensis* sp. nov.**

Glabrous; branches stout, costate; petioles 2 cm. long, stout, channeled above, 3-costate, like the midrib, underneath; blades 0.7-1.5 dm. long, 2.5-5 cm. broad, oblong, acute at the base, short-pointed and acute at the apex, strongly and sharply serrate toward the apex, becoming entire toward the base, dark-green, the venation rather prominent both sides, the principal secondaries 12-14 pairs, whitish, slender, rather crooked, communicating close to the margin and connected by the principal tertiaries; the small, long-peduncled axillary panicles forming a leafy, compound terminal panicle, conspicuously bracted, the bracts lance-linear and attenuate; peduncles of the heads 0.5-1 cm. long, strongly angled; involucre broadly campanulate, 6 mm. long, the scales ovate, acuminate and acute; rays light-yellow, the limb oblong, 5 mm. long; akenes 3 mm. long, oblanceolate, whitish, very strongly angled; pappus 7 mm. long; corolla-tube proper slightly longer than the akene, slender, dilated at the base, passing abruptly into the broadly infundibular limb, which is shorter. (*No.* 2435.)

"A shrub 10 ft. or more high, in rich forest-mould, the flowers light-blue." Coroico, September, 1894. Mr. Bang must have mistaken the plant, as the yellow rays are conspicuous.

***Senecio pectioides* sp. nov.**

Glabrate; root stout, elongated, woody, bearing a dense mass of filiform, elongated rootlets; stem woody, much-branched from near the base, the branches erect, 3-4 dm. long, purple, striate, very leafy; leaves clasping by a narrowed, or on the upper leaves a much dilated base, 2-4 cm. long, 4-8 mm. broad, linear-oblanceolate, acute, coarsely and sinuately dentate, the teeth acute, the large auricles of the upper leaves coarsely laciniate, deep-green above, underneath pale and when young more or less pilose; terminal corymbs small, loose; peduncles of the heads 0.5-1 cm. long;

involucre broadly campanulate, 8 mm. long, the outer circle short, lax, the inner scales oblanceolate, acute; rays deep-yellow, nearly twice the length of the involucre; disk-flowers a little exceeding the involucre. (*No.* 1829.)

***Senecio liabifolius* sp. nov.**

Short scurfy-tomentose, the leaves nearly smooth except upon the veins; stems stout, ascending, flexuous; petioles 1–2 cm. long, stoutish, somewhat dilated at the base; blades 1–1.5 dm. long, 2.5–5 cm. broad, oblong or oblanceolate, acute and entire at the base, sharply serrate upward, abruptly acuminate and acute at the apex, thin but rigid, deep-purple in the specimens, the venation inconspicuous, the secondaries 12–15 pairs, slender, strongly upwardly curved; corymb terminal, 2 dm. or more broad, compound and rather dense, subulate-bracted; peduncles of the heads erect or strongly ascending, slender, several-bracted, 3–6 cm. long; involucre 8 mm. long, broadly campanulate, 1-serialled, the scales ovate, acuminate and acute, purple with broad light margins; rays fertile, apparently light-purple, 1–1.5 cm. long, oblong; akenes 3 mm. long, linear; pappus 8 mm. long, fine, white; disk-corollas purple, 9 mm. long, the lower half narrowly cylindrical, the upper abruptly infundibular-campanulate. (*No.* 2033.)

***Senecio tabacifolius* sp. nov.**

Ferruginous-tomentose, the upper leaf-surfaces papillose and short-stellate; stems 1.2–2 m. high, shrubby, coarsely angled, flexuous; petioles (only upper seen) 2–4 cm. long, stout, subterete; blades 1–3 dm. long, 0.5–1 dm. broad, lance-oblong, obtuse or acutish at the base, acuminate at the apex, finely (the larger leaves obsoletely) serrate, the teeth acute, very thin, venation lightly prominent both sides, the midrib broad and coarse, the secondaries about 15 unequal and irregular pairs, alternating with lesser ones; panicles terminal, short-peduncled, 2–3 dm. long, 1–2 dm. broad, pyramidal, rather lax, the branches and branchlets subulate-bracted; peduncles of the heads slender, 3–5 mm. long; heads 7 mm. long and broad; involucre campanulate, 4 mm. long and (as pressed) 5–6 mm. broad, the scales in one series, or with a few small ones at the base; scales oblong, 3- to 5-costate, obtuse or acutish; rays slightly exceeding the disk; akenes short and stout; pappus fine; white, copious; tubular corollas infundibular.

“A shrub, 4 to 6 ft. high, in wet shaded forest-mould; the flowers beautiful, white [probably referring to the pappus — H.H.R.], the leaves beautiful velvety-green.” (*No.* 2385.) Sacramento, Yungas, August 4, 1894.

***Senecio prunioides* sp. nov.**

Younger portions and inflorescence sparsely short-hairy; stems climbing, stout, costate; petioles 1–2 cm. long, rather stout; blades

6-9 cm. long, 2-3 cm. broad, oblong, entire, acute at the base, shortly, obliquely pointed and obtusish at the apex, thin, dark-green above, paler underneath with the midrib prominent, the venation inconspicuous both sides; peduncles of the small panicles much elongated, angled, the branches bracted, the bracts 2-5 mm. long, lance-ovate, acuminate, thin; peduncles of the heads 3-5 mm. long; involucre campanulate, 7 mm. long, the scales in one series, linear-oblong, acuminate, thin, dark-green; akenes 1.5-2 mm. long; pappus 5 mm. long, white, fine, copious; corolla 7 mm. long, the tube slender, the limb broadly campanulate, deeply lobed.

"Climbing 10 to 15 feet upon trees, in forest-mould and clay, the flowers of a dirty yellow, Coroico, Sept. 1894." (No. 2437.)

Species near *S. yungasensis* and *S. floccosa*.

***Senecio baccharidiflorus* sp. nov.**

Younger portions, inflorescence and lower leaf surfaces closely and densely tomentose; stems slender, apparently climbing, terete, striate; petioles 1 cm. long; blades 4-8 cm. long, 2-4 cm. broad, oblong or oblanceolate, the lower obtuse or rounded at the base, the upper acute, abruptly short-pointed and acute at the apex, serrulate, the teeth acute, and divergent; thick and coriaceous, glabrous above with the midrib and 12-15 pairs of slender, crooked secondaries impressed, finely reticulate; panicles or their principal branches 2 cm. long, 1.5 cm. broad, ovoid with rounded summit, dense; heads sessile, involucre 3-4 mm. long, broadly campanulate, densely floccose and ferruginous, the closely appressed scales 1-serialled, broadly ovate, the apex rounded or with a short obtusish purple tip, thick, with scarious margins; rays wanting; mature akene scarcely 1 mm. long, obovoid, lightly compressed, 4-angled; pappus 3 mm. long, fine, white, copious, short-barbellate; corolla 3 mm. long, stout, broadly infundibular, lobed more than one-third of the way, the lobes ovate, obtusish, tuberculate-thickened on the face at the apex; anthers long and narrowly caudate at the base, the appendages oblong, obtuse; style thick, the branches 1.5 mm. long, flattened, papillose, the appendages acuminate and penicillate.

"A climber with white flowers, growing in rich forest-mould." Unduavi, September, 1894. (No. 2494.)

SENECIO sp. near *S. prunifolius*, the inflorescence too immature to admit of a diagnosis. Mr. Bang says: "Grows in rich forest-mould, climbs to a height of about 8 feet and has green flowers." Coroico, September, 1894. (No. 2459.)

SENECIO, species probably undescribed, but I have too little material. (No. 2023.)

SENECIO, may possibly be *S. rhizomatus* Rusby. (No. 1890.)

?GYNOXIS BACCHAROIDES Cass. Dict. Sci. Nat. 48: 455. (Specimen without number.) Apparently the same as *Mandon* 84.

Gynoxis discolor sp. nov.

Densely white-floccose except the upper leaf-surfaces; stems slender, finely costate; petioles 0.5–1.5 cm. long, lightly channeled; blades 4–8 cm. long, 2–3 cm. broad, ovate, rounded at the base, shortly and acutely pointed, thick and rigid, above glabrous, pale-green, the midrib lightly depressed, the finely reticulate venation elevated, underneath white, the margin revolute, the terete midrib and the 15–18 pairs of secondaries very prominent, the latter connecting near the margin; peduncles of the axillary panicles 0.5–1.5 cm. long, the inflorescence 1–2 cm. long, nearly as broad; heads very short-peduncled; involucre campanulate, 5 mm. long, 4 mm. broad, the scales 8, oblanceolate, short-acuminate, acutely and stiffly pointed; akenes (immature) 1 mm. long, broad; pappus white, 4 mm. long, slightly exceeding the corolla. (*No.* 2280.)

Gynoxis (?) *megacephala* sp. nov.

Shortly and densely yellow-tomentose, especially the lower leaf-surfaces, the upper leaf-surfaces nearly glabrous; branchlets elongated, very stout but weak, coarsely sulcate; leaves 2–3 cm. long, 0.8–1.75 cm. broad on a very short, broad petiole, oval, rounded at the base, stoutly mucronate, very thick, deep-green above, deep-yellow underneath, the midrib stout; heads large, short-corymbed at the summit; peduncles of the heads 5 mm. long, stout, angled; involucre campanulate, the scales in two series, the outer sub-herbaceous, or flaccid, about two-thirds the length and breadth of the inner, yellow-tomentose without, purple within, the inner 1 cm. long, erect-appressed, oblong, obtuse, nerved, deep-purple with whitish margins; rays wanting; akenes 2 mm. long, half as broad, obovate, truncate, compressed, 4-angled with intermediate lesser ones; pappus tawny, 8–9 mm. long, short-barbellate, copious; corolla yellow, strongly striate or almost costate, the lower cylindrical portion of the tube 5 mm. long, slightly contracted above, the remaining portion 4 mm. long, campanulate-infundibular, the lobes 2 mm. long, ovate, acutish; anthers nearly 2 mm. long, the whitish appendages obtuse, the base sagittate but scarcely produced; style-branches 4 mm. long, thick, upwardly flattened and broadened, strongly recurved, the appendages short, broad, obtuse, lightly pilose; receptacle plane, foveolate. (*No.* 1959.)

The same collected by *Pearce* at Huaycani, 11,000 ft., May, 1866.

Werneria caulescens (Wedd.). (*W. nubigena caulescens* Wedd.

Chlor. And. 1: 81.) (*No.* 1919.) The same as *Mandon* 86.

WERNERIA NUBIGENA H.B.K. *Nov. Gen.* 4: 193. (*No.* 1918.)

The same as *Mandon* 85.

WERNERIA STRIGOSISSIMA A. Gray, *Proc. Am. Acad.* 5: 140. (*No.* 1830.)

BARNADESIA VENOSA Rusby, Mem. Torrey Club 6: 69. With a specimen of this plant, Mr. Bang sends the following statement: "I have found this plant as a tall shrub, the stem as stout as a man's leg, and full of thorns like long needles." Sacramento, Yungas, August, 1894.

Barnadesia inermis sp. nov.

Short-pubescent; branchlets stout, flexuous, mostly about 2 dm. long, very leafy, erect; petioles 0.5–1 cm. long; blades 5–8 cm. long, 1.5–3 cm. broad, oblong, obtuse at the base, very acute or cuspidate at the apex, entire, deep-green, thickish and rigid, glabrous above, with the strongly reticulate venation rather prominent, underneath short-hairy, the hairs appressed, the venation prominent, strongly 3 nerved, the nerves continued into the midrib; peduncles axillary to the upper leaves, about 1 cm. long; stout, erect, about 5-flowered; peduncles of the heads 3–5 mm. long; involucre campanulate, about 1 cm. long, many-serialled, the scales greenish, acute, strongly ciliate, the innermost lanceolate, the outermost successively stouter, becoming broadly ovate toward the base, before drying strongly appressed, giving the involucre a strongly contracted summit, in drying becoming strongly recurved; receptacle densely short-scaly; akenes oblong, stout, pilose, 2.5–3 mm. long; pappus coarse, rigid, very strongly plumose, tawny, the plume whitish; corollas 7 mm. long, fissured more than half-way, 5-lobed, the lobes 2 mm. long, narrow; upper portion of corolla reflexed or recurved; anthers 3.5 mm. long, slenderly caudate; style-branches very short, flattened, the apex rounded.

"Climbing very high on trees in damp forest-mould. The flowers are yellow, with an agreeable odor, and very different from those of 2335, which are white." Near Coroico, Yungas, August 5, 1894. (No. 2372.)

CHUQUIRAGUA FEROX (Wedd.) Britton, Bull. Torrey Club 19: 266. 1892. (No. 2887.)

Chuquiragua varians (Gardn.). (*Flotovia varians* Gardn. Lond. Jour. Bot. 6: 454. 1847.) "A thorny climber, with white flowers, growing in wet forest-mould." Calapampa, June 24, 1894. (No. 2335.)

Moquinia boliviana sp. nov.

Shortly stellate-tomentose throughout, very slightly upon the upper leaf-surfaces; branches slender, flexuous, slightly coarse-angled below, the internodes about 2–4 cm. long; petioles 1–1.5 cm. long, very stout; blades 0.5–1 dm. long, 3.5–7 cm. broad, ovate, shallowly cordate at the base, rounded and mostly retuse

with a slight apiculation at the apex, thick and rigid, above deep-green, the midrib and secondaries very slightly impressed, the finely reticulate venation sharply elevated, underneath gray, the midrib and 6 or 7 pairs of secondaries very stout, terete and coarse, and somewhat crooked; panicles 2 dm. or more long, as broad or broader, lax, the branches mostly at an angle of about 45° , the branchlets subtended by lance-ovate or oblong bracts, the ovate bractlets at the summit gradually merging into the involucre scales; involucre campanulate, 7 mm. long, squarrose, on peduncles 3-7 mm. long; scales ovate, varying to obovate or oblong-oblancheolate, acutish or obtuse, finely nerved, ciliate, coriaceous, concave; flowers 10, all alike, the akenes 2.5 mm. long, pilose, oblong, slightly compressed, nerved; pappus 1-serialled, 4-5 mm. long, coherent at the base in 5 fascicles, rather coarse, rigid, barbellate, slightly thickened toward the summit; corolla yellowish, 5 mm. long, divided nearly two-thirds of the way, the tube cylindrical, the lobes equal, linear, obtuse, the apex strongly recurved or even revolute, reddish at the tip; anthers nearly 3 mm. long, the appendage lanceolate, acuminate, the caudae long-attenuate; style-branches very stout, oblong, rounded at the apex, thick, compressed. (*No.* 2252.)

THYRSANTHEMA INTEGRIFOLIA (Cass.) Kuntze, Rev. Gen. Pl.

369. (*Seris integrifolia* Cass. Dict. Sci. Nat. 26: 103.)

"A small weed, growing in many places, along roadsides, etc., the flowers white." Coripata, March 14, 1894. (*No.* 2095.)

THYRSANTHEMA ROTUNDIFOLIA (D. Don) Kuntze, Rev. Gen. Pl.

369. (*Chaptalia rotundifolia* D. Don, Trans. Linn. Soc. 16: 242. 1830.) (Specimen without number.) The same as

Mandon 12.

SERIS SAGITTATA Rusby, Mem. Torrey Club 6: 69. "Growing 2 or 3 ft. high, in dry gravel and clay, the flowers rose-colored.

Found but once." Coroico, July 30, 1894. (*No.* 2365.)

SERIS APPRESSA (Hook.) Kuntze, Rev. Gen. Pl. 364. (*Centroclonium*

appressum Hook. Bot. Mag. *pl.* 3115.) (*No.* 1811.)

The same as *Mandon* 665.

PEREZIA INTEGRIFOLIA Wedd. Chlor. And. 1: 40. (*Nos.* 1880 and 2029.)

TRIXIS DIVARICATA (H.B.K.) Spreng. Syst. 3: 501. (*Perdicium*

divaricatum H.B.K. Nov. Gen. 4: 155.) "Climbing 10 to 15 ft. high, among shrubs, in gravel and clay along roadsides, the flowers greenish-white; abundant." Coripata, June 24, 1894. (*No.* 2289.)

JUNGIA FERRUGINEA L.f. Suppl. 390. (not Don). "Grows in damp forest-shade and climbs 20 ft. high or more, the flowers greenish-brown." Coripata, June 20, 1894. (*No.* 2308.)

JUNGIA AFFINIS Gardn. Lond. Jour. Bot. 6: 460. 1847. (Specimen without number.) The same as *Gardner 4263*.

Jungia pauciflora sp. nov.

Stems elongated, weak, coarsely angled, pubescent, the yellowish, rather coarse hairs short and reflexed upon the lower portions, longer and spreading toward the summit; stipule-like leaves rounded or broader than long, about 1-1.5 cm. long, in all other respects similar to the leaves; petioles 2-4 cm. long, stout and rigid, costate, pubescent like the stem; blades 0.5-1 dm. long and broad, rotund-ovate, strongly cordate, the sinus mostly broad, crenately lobed, the lobes irregularly crenate-dentate, thick and rigid, above bright-green, harsh, sparsely and very shortly hairy, underneath very pale, softly short-pubescent, strongly 7-nerved, the nerves coarsely branching, the venation coarsely reticulate, prominent both sides, especially underneath; panicle elongated, exceedingly loose and few-flowered, the branches elongated, very slender and weak, leafy-bracted at the base; peduncles of the heads elongated and slender; involucre broadly campanulate, 6 mm. long, ferruginous like the peduncles, the scales lanceolate, rigid, appressed, acute; ray-corollas 1 cm. long, the limb about 5 mm. long, 2 mm. broad, sharply 3-toothed, the whitish pappus two-thirds the length of the ray; disk corollas (not fully mature) 7 mm. long. (*No. 2048.*)

This is very near to *Mandon 16*, and *Matthews'* plant from Chachapoya, Peru, and I am disposed to regard them as identical, although the one here described has stouter and shorter peduncles, larger heads and flowers and the pappus shorter in proportion to the corollas. I do not therefore take up the proposed name of Schultz-Bipontinus.

Jungia orbicularis sp. nov.

Stems elongated, stoutish but very weak (possibly scandent), purplish, coarsely angled, pubescent with short, white hairs; stipule-like leaves semicircular, the pair conspicuously orbicular, 3-8 cm. broad and one-half or more the size of the leaves proper, coarsely crenate; only the upper leaves seen, their petioles 3-6 cm. long, coarse and weak, strongly ribbed, the ribs continued into the midrib of the leaf; blades rotund-ovate, 0.5-1 dm. long and broad, coarsely lobed with broadly ovate, irregularly crenate-dentate lobes, very thin, above bright-green and very sparsely short-hairy, underneath pale or gray and softly short-pubescent, 3-ribbed, or 5- to 7-ribbed by the prompt branching of the lower pairs, the ribs broad and weak, purplish, the venation prominent underneath; panicle elongated, sparsely-flowered, very leafy, the heads partly concealed by the leafy bracts; peduncles of the heads 3-6 mm. long, stout; involucre campanulate, 8 mm. long, green, the scales 7 mm. long, lanceolate, obtuse, the margins toward the base strongly involute;

akene of the young ray-flower 2 mm. long, little contracted above, the (white) ray 9 mm. long, its limb 4 mm. long and 2 mm. broad, oval, lightly 3-toothed, the pappus 5 mm. long, coarse, green, plumose; disk-flowers not fully mature in my specimens, the corollas 6 mm. long, slenderly infundibular, the akene and pappus similar to those of the ray. (Specimens without number.)

Species very near the last, but conspicuously distinct in leaf-texture, the larger stipuloid leaves and the partly concealed inflorescence.

Hieracium trichodontum sp. nov.

Long-pilose throughout, the hairs spreading or even reflexed, above somewhat tangled; stems about 3 dm. long, stoutish, erect, few-flowered; radical leaves erect on petioles 3-6 cm. long, the blades 5-8 cm. long, oblong, tapering into the petiole, obtuse, coarsely reticulate, the cauline similar but becoming sessile and acute; peduncles of the heads 7-10 cm. long; involucre campanulate, about 1 cm. long, the scales lanceolate, acute; corollas nearly 1.5 cm. long, truncate, sharply toothed, the teeth 2-3 mm. long. (No. 2035.)

HIERACIUM MICROCEPHALUM Sch.-Bip. Bonplandia 4: 55. 1856.
(Specimen without number.)

Hypochaeris setosus (Wedd.). (*Achyrophorus setosus* Wedd. Chlor. And. 1: 220.) (No. 2894.) The same as *Mandon* 278.

HYPOCHAEERIS ACAULIS (Remy) Britton, Bull. Torrey Club 19: 371. 1892. (No. 2025.)

HYPOCHAEERIS ELATA (Wedd.) Griseb. Symb. Fl. Argent. 218. (No. 2009.)

CAMPANULACEAE

CENTROPOGON YUNGASENSE Britton, Bull. Torrey Club 19: 371. 1892. "Climbing 8 to 12 feet, upon trees, in wet soil, forest-shade; flowers red." Coroico, September, 1894. (No. 2432.)
The same as *Rusby* 642.

CENTROPOGON GLORIOSUS (Britton) Zahlb. Bull. Torrey Club 24: 373. 1897. (*Siphocampylus gloriosus* Britton l. c. 19: 373. 1892.) (No. 2620.) The same as *Rusby* 647.

CENTROPOGON (?) INCANUS (Britton) Zahlb. Bull. Torrey Club 24: 374. 1897. (*Siphocampylus incanus* Britton l. c. 19: 373. 1892.) "About 5 ft. high, in very wet ground along roadsides; odor very disagreeable." Coroico, September, 1894. (No. 2474.)

SIPHOCAMPYLUS ARGUTUS Zahlb. Bull. Torrey Club 24: 383. 1897. (No. 2045.)

SIPHOCAMPYLUS BOLIVIENSIS Zahlb. Ann. K. K. Nat. Hofm. Wien 6: 443. (No. 2842.) The same as *Mandon* 496.

SIPHOCAMPYLUS RUSBYANUS Britton, Bull. Torrey Club 19: 372. 1892. "Growing in mould and clay, in forest, half-climbing to a height of 15 feet, the flowers white." Coroico, September, 1894. (No. 2433.)

SIPHOCAMPYLUS FLAGELLIFORMIS Zahlb. Bull. Torrey Club 24: 380. 1897. (*S. angustiflorus* Britton, l. c. 19: 373. 1892. non Schlecht.) "Growing in damp forest-mould, and climbing to a height of 40 ft. or more, on trees, the flowers rose-colored; scarce." Uchimachi, July 20, 1894. (No. 2353.) The same as *Rusby* 646.

SIPHOCAMPYLUS BILABIATUS Zahlb. Bull. Torrey Club 24: 382. 1897. "Growing in wet shaded clay and climbing slightly; the flowers black and red." Coroico, September, 1894. (No. 2464.)

SIPHOCAMPYLUS CORREOIDES Zahlb. Bull. Torrey Club 24: 382. 1897. "Growing in wet mould, in shade, and climbing 2 to 4 ft., the flowers red." Unduavi, September, 1894. (No. 2483.)

SIPHOCAMPYLUS ELEGANS BOLIVIENSIS Zahlb. Bull. Torrey Club 24: 381. 1897. "Growing in wet mould and climbing 6 to 10 ft., the flowers red." Unduavi, September, 1894. (No. 2491.)

Siphocampylus reflexus sp. nov.

Reclining or climbing, glabrous; stems elongated, slender, terete; petioles 0.5-1.5 cm. long, mostly reflexed or twisted, purplish; blades 3-7 cm. long, 1-2.5 cm. broad, triangular-lance-ovate, truncate to subcordate at the base, regularly acuminate and attenuate at the apex, finely serrate, the teeth reduced to divergent spinules, membranaceous, bright-green, coarsely reticulate with slender, whitish veins; flowers axillary, solitary, scarlet-red; peduncles 4-6 cm. long, slender, slightly tapering upward, angled, mostly recurved; calyx-tube very short, 6 mm. broad at the apex, the lobes strictly deflexed, 1 to nearly 1.5 cm. long, linear, slightly tapering, obtuse, serrate, like the leaves, but more coarsely; corolla-bud strongly clavate-curved; corolla-tube about 4 cm. long, 4 mm. broad at one-fourth of the distance from the broader base, then gradually dilated to 1 cm. (as pressed) near the summit; lobes 1-1.5 cm. long, lanceolate, acutish, lighter-colored, their direction mostly continuous with that of the corolla; essential organs 6 cm. long, the anthers 8 mm. long, lightly curved, strongly costate, lightly barbellate.

Vic. Cochabamba (No. 2026, in part). Nearly the same as *Pearce's* specimens from Santa Cruz.

- LAURENTIA RAMOSSISSIMA (Mart. & Gal.) Benth. & Hook. f. Gen. Pl. 2: 549. (*Lobelia ramossissima*) Mart. & Gal. Bull. Acad. Brux. 9: [11]. 1842.) (No. 2247.)
- LOBELIA CLIFFORTIANA XALAPENSIS (H.B.K.) A. Gray, Syn. Fl. N. Am. 2¹: 7. "Growing in wet clay, in the forest, the flowers violet; scarce." Coripata, April, 1894. (No. 2162.)
- WAHLENBERGIA PERUVIANA A. Gray, Proc. Am. Acad. 5: 152. 1861. (No. 1921.)

VACCINIACEAE

- CERATOSTEMMA MANDONI Britton, Bull. Torrey Club 20: 137. 1893. (No. 1939.) The same as *Rusby* 2632.
- CERATOSTEMMA ELLIPTICA (Hook.) Britton, Bull. Torrey Club 20: 137. 1893. (*Thibaudia elliptica* Hook. Ic. Pl. pl. 108.) (No. 2003.)

Ceratostemma (?) spectabilis sp. nov.

Pubescent throughout, including the outside of the corolla; branches elongated, stout, densely leafy; petioles 2 mm. long, broad; blades 1.5–3 cm. long, 0.75–1 cm. broad, ovate, blunt, pale-green, obscurely 3-nerved, the midrib very prominent underneath, the venation indistinct; flowers solitary in the axils; bracts at the base of the pedicels 3–5 mm. long, ovate, acuminate and almost pungent; pedicels 0.5–1.5 cm. long, stoutish; calyx-tube 5 mm. long and broad, campanulate, purple-green, the lobes 5 mm. long, broadly ovate, abruptly and acutely short-pointed; corolla 3–4 cm. long, infundibular, deep scarlet-red, the lobes erect, 5 mm. long, triangular-ovate, acute; filaments 3 mm. long, pilose, flattened, lightly coherent at the base; anthers 5 mm. long, dark, the thecae spurred at the base, the spurs 1 mm. long, dilated and incurved, laterally compressed and sulcate, rounded and notched at the base; awns exceeding the corolla-tube, shorter than the lobes, bright-yellow, the upper part dehiscent; style about equaling the stamens; disk annular, adnate, 1 mm. long. (No. 2605.)

This differs from the genus to which it is referred in the form of the anther-spurs and especially in its axillary and solitary flowers, yet its affinities seem clearly to be here.

- CAVENDISHIA ACUMINATA (Hook.) Benth.; Hemsley, Biol. Cent. Am. Bot. 2: 272. "A shrub about 8 ft. high, growing in very damp forest-mould, the flowers red and green; very scarce." Near Coroico, August 5, 1894. (No. 2373.) The same collected by *Couthouy* in the Quitensian Andes.

ERICACEAE

PERNETTYA PHILLYREAEFOLIA (Pers.) DC. Prodr. 7: 587. (*Arbutus phillyreaefolia* Pers. Syn. 1: 483.) (No. 1904.) This is the same as no. 766, *Rusby 2017*, *Mandon 553*, and a specimen collected by *Ball* in western Patagonia. *Bang 2047* may be the same, and is placed here provisionally.

PERNETTYA PARVIFOLIA Benth. Pl. Hartw. 219. (No. 1907.) This is the same as *Rusby 2023* and *Triana's* New Grenada no. 2650.

GAULTHERIA CONFERTA Benth. Pl. Hartw. 219. (No. 1905.) The same as no. 707.

GAULTHERIA BRACHYBOTRYS DC. Prodr. 7: 595. (Nos. 1906 and 2002.) The same as *Rusby 2014*.

Clethra elongata sp. nov.

Branchlets short, stout, tomentellate, and densely leafy at the summit; petioles 1-2 cm. long; blades 0.8-1.5 dm. long, 3-6 cm. broad, oblanceolate, acute at the base, very short-pointed and acute at the apex, obsoletely serrate, the teeth mere projections of the veins; leaves rather thin, but rigid, above glabrous with the midrib and 12-14 pairs of secondaries narrowly and deeply channelled, underneath sparsely coarse-hairy on the principal veins, the midrib and secondaries very prominent, the tertiaries meeting about midway between the latter; peduncles of the racemes about 2 cm. long, like the slender rachis ferruginous and strongly angled or costate, the raceme 1-1.5 dm. long, sub-erect, rather densely flowered, the pedicels bracted at the base, the bracts linear, about 2 mm. long, abruptly deflexed; pedicels 3-5 mm. long, slender, divaricate; calyx-tube nearly hemispherical, 2 mm. broad, the lobes 2 mm. long, ovate, obtuse, indistinctly 3-5-nerved; petals 3.5 mm. long.

"A stout tree 30 to 35 ft. high, with very pleasantly fragrant white flowers, in forest mould." Uchimachi, Coroico, July 20, 1894. (No. 2351.)

MYRSINACEAE

MYRSINE GUIANENSIS (Aubl.) Kuntze, Rev. Gen. Pl. 402. (*Rapanea guianensis* Aubl. Pl. Guian. 1: 121.) (No. 2049.) The same as no. 1463.

Peckia purpurea sp. nov.

Stems stout, coarsely angled, purple, finely red-scurfy; petioles 1.5-2 cm. long, stout and broad, purple; blades 1.5-2.5 dm. long, 4.5-6.5 cm. broad, oblanceolate, tapering into the petiole, abruptly short-pointed, the point acuminate and acute, entire, thin but rigid,

papillose both sides, the midrib lightly channeled above, terete and very prominent underneath, like the 10-12 pairs of slender secondaries, which are strongly ascending and connected by the tertiaries; racemes about 1.5 dm. long, very slender, erect, strongly angled, red-scurfy, loosely-flowered; pedicels 2.5 mm. long, the ovate basal bract half as long; sepals scarcely 1 mm. long, broadly ovate, the apex rounded, like the corolla-lobes, purple with the margin lighter; corolla-lobes nearly 2 mm. long, broadly oval or suborbicular; stamens very short; flowers staminate only. (No. 2048.)

Species very near *Rusby 1218*.

Clavija tarapotana Spruce, MS.

(Distributed as "*C. lancifolia* Desf.")

Shrub 1 to 2 m. high, slender, glabrous; leaves 30-45 cm. long, 5-8 cm. wide, oblanceolate, acute, the margin obscurely sinuate, tapering into a very short, stout petiole; thick, light-green and drying yellowish, the midrib very stout, lightly channeled above; principal secondaries about 20 on each side with as many alternating ones nearly as strong, the venation finely reticulate, strong; racemes 15-20 cm. long, simple, slender, loosely flowered; bracts about twice the length of the bud-bearing pedicel, ovate, acuminate and acute, thin; pedicel stout, 3 mm. long at flowering, bearing a very small bractlet at about the middle; calyx 4 mm. broad, the segments broadly oval, the summit rounded, minutely ciliate; corolla 9 mm. broad, of similar form; pistil 3 mm. long, the peltate white stigma nearly 2 mm. broad, 12-lobed; staminate flower not seen.

"Scarce in shade, in rich forest-mould, the flowers yellow." (No. 2158.) The same as *Rusby 1219*.

SAPOTACEAE

Chrysophyllum ilicioides sp. nov.

Branchlets numerous, slender, gray; petioles 0.5-1 cm. long, channeled; blades 4-8 cm. long, 2.5-4 cm. broad, ovate, rounded at the base, very short-pointed and acutish at the apex, entire, glabrous, dark-green, above shining with the midrib channeled, midrib very prominent underneath, the secondaries very numerous, slender, nearly straight; fascicles about 10-flowered; pedicels slender, 3-5 mm. long; calyx 1 mm. long and a little broader, hemispherical-cupulate, shallowly lobed, the lobes rounded; corolla sub-rotate, 5 mm. broad; filament subulate, about as long as the broadly ovate anther, inserted upon the base of the corolla-lobe; ovary broadly ovate, purple, reaching to the base of the corolla-lobes; style conical, short; stigma capitate, white; ovules basal.

“A tree 20 to 30 ft. high, the flowers green.” In the forest, near the River Tamampaya, Coripata, Yungas. April 26, 1894. (No. 2157.)

Sideroxylon Bangii sp. nov.

Branchlets numerous or crowded, short, stout, up-curved, lightly ferruginous toward the summit, marked by broad, saucer-shaped leaf scars; petioles 1–1.5 cm. long, stout, channeled, striate underneath; blades 0.5–1.5 dm. long, 2–8 cm. broad, oval, obtuse or sub-rotund at the base, slightly pointed but blunt or even notched at the apex, entire, coriaceous, slightly shining above, with the venation lightly prominent, ferruginous underneath, especially upon the midrib, which, with the 12–15 pairs of lightly upcurved secondaries, is very prominent; fascicles 1- to about 7-flowered; bracts very short; pedicels 0.5–1 cm. long, stout, erect, thickened upward; calyx cupulate, 2 mm. long by 3 mm. broad, lobed nearly half-way, the lobes semicircular or broader, thick and rigid; flowers not seen; young fruit narrowly ovoid, densely and coarsely ferruginous-pilose, narrowing into a short, black, glabrous beak. (No. 1953.)

STYRACEAE

SYMPLOCOS MATHEWSII A. DC. Prodr. 8: 250. (No. 2156.) The same as *Rushy* 2686.

SYMPLOCOS COLORATA Brand. “A tree 20 ft. high, growing in rich mould, in forest.” Near Coroico, July 10, 1894. (No. 2332.)

This is the same as a specimen collected by *Pearce*, the two together being announced as the type.

Symplocos flavescens sp. nov.

Branchlets short and stout, shortly ferruginous-tomentose; petioles 0.5–1 cm. long, very stout and broad; blades 4–8 cm. long, 2.5–5 cm. broad, oval, lightly cordate at the base, very shortly pointed and obtusish at the apex, finely serrate, the teeth short and broad, obtuse or acute; leaf thick and rigid, above bright yellowish-green and nearly glabrous with the venation lightly impressed, underneath shortly and rather coarsely yellow-pubescent, the coarsely reticulate venation very prominent; panicles 1–3 cm. long and broad, about 6–10-flowered, very shortly and stoutly peduncled, the flowers sessile, mostly in threes at the ends of branchlets; calyx tomentose, especially above, the tube ovoid, contracted at the mouth, 8 mm. long, the lobes appressed or inflexed, 2 mm. long, broadly triangular-ovate, obtuse; corolla deep-purple, coriaceous, deeply 7-parted, the lobes 4 mm. long, nearly 2 mm. broad, lance-ovate, obtuse, pubescent within; stamens inserted at the summit of the short tube, in two series, the upper anantherous in my specimens, filaments subulate,

flattened, the outer series twice as long and broad; anthers bright-yellow, small, nearly quadrate; style thickish, persistent, the stigma obscurely 3-lobed. (*No. 1895.*)

STYRAX OVATA (R. & P.) A. DC. Prodr. 8: 267. (*Foveolaria ovata* R. & P. Syst. Veg. 100.) (*No. 2867.*)

APOCYNACEAE

? MALOUEZIA sp. (Specimen in fruit, and without locality or date.) The same as *Rusby 2390.*

Laubertia (?) *laxiflora* sp. nov.

Glabrous; branches stender, terete; leaves opposite; petioles 4-5 mm. long, broad; blades 0.8-1.2 dm. long, 3-4.5 cm. broad, oblong or oval to slightly ovate, abruptly short-acuminate and obtuse, deep-green and shining above, drying yellowish-green underneath, the midrib channeled above, very prominent underneath, the 5 or 6 pairs of very slender secondaries strongly incurved, connected by the tertiaries; panicle terminal, the branches very few, 1-2 dm. long, sub-filiform, drooping, flexuous, very sparsely flowered; bracts very small, ovate, thickish; pedicels mostly about 1 cm. long, slender, dilated at the junction with the calyx, 3 mm. broad at the sub-truncate base, appendaged within, just below the sinuses, with 5 small ligules; the lobes somewhat unequal, about 3 mm. long, tightly inflexed against the corolla-tube, broadly ovate, obtuse; corolla apparently white, strongly and broadly nerved, the tube 6 mm. long, cylindrical and slightly contracted upward, the throat lightly pilose within, the limb broadly infundibular, 1.2 cm. long, the lobes 5-6 mm. long and broad, sub-rotund, entire, 3-5-nerved; filaments inserted at the summit of the tube, lightly pilose, ligulate, narrowly margined above, 2 mm. long, nearly 1 mm. broad; anther 3 mm. long, acuminate and acute, sagittate, the free portion of the lobes 0.5 mm. long, acute, the tips lightly incurved; lobes of the disk broadly obovate, thick, lightly connate at the base in two pairs, the fifth entirely free; style thick and dilated below, gradually becoming filiform at the summit, the stigma 1 mm. long, nearly as broad, 5-lobed, annulate; only very young fruit seen, the ovaries separate, lanceolate, acuminate and acute, the apices incurved. (*No. 2056.*)

This very interesting plant differs from the meager descriptions of the little known genus *Laubertia* in the presence of the ligules of the calyx, which may very easily have been overlooked in previous specimens. The young fruit, moreover, looks as though it may develop something very different from the slender follicles described. When better known it may be found to represent an undescribed genus.

ECHITES PELTATA Vell. Fl. Flum. 110; 3: *pl.* 32. (*No.* 2804.)

Echites cyaniphylla sp. nov.

Glabrous; stems very slender, purple, finely many-nerved; petioles 1-2 cm. long, slender, keeled; blades 0.6-1 dm. long, 2-4 cm. broad, oval, varying to ovate or obovate, mostly inequilateral, the base broad but slightly produced, abruptly short-acuminate and cuspidate at the apex, deep-green, the younger purple, the venation slender, lightly prominent both sides, coarsely reticulate; peduncles 2-3 cm. long, thicker at the summit, not dichotomous; pedicels about 1 cm. long; calyx-tube short-cupulate, 3-4 mm. broad; lobes 5 mm. long, lance-oblong, obtuse, faintly nerved, their sinuses acute; corolla greenish-yellow, hypocrateriform, the tube about 12 mm. long, dilated at base and summit, the limb in bud broadly ovate and acutish, the lobes 8-10 mm. long, obovate; follicles 3 dm. or more long, lightly curved, 5-7 mm. thick, as pressed, scarcely acute; seed 12 mm. long, inequilaterally lance-oblong, dark-green with white nerves and a short whitish beak, the coma about 1.5 cm. long, spirally twisted, white, copious. (*No.* 2267.)

Probably the same as a specimen in herb. Kew collected by *Saunders* at Bogota, but not the same as *Rusby* 2383, which it closely resembles.

Echites Bangii sp. nov.

Glabrous; petioles 1-2 cm. long, flat, striate; blades 0.7-1.5 dm. long, 3-7 cm. broad, oval or oblong, rounded to subcordate at the base, abruptly and very acutely short-pointed, thin, deep-green above, drying yellowish underneath, the slender midrib and 6 or 7 pairs of secondaries sharply prominent underneath, the latter connected by the crooked tertiaries; peduncles 3-4 cm. long, loosely about 10-flowered; pedicels 1-1.5 cm. long, stoutish, subulate-bracted; calyx-tube cupulate, 1.5 mm. long, 5 mm. broad, truncate at the base, the lobes 4 mm. long, ovate, recurved at the apex, the sinuses rounded; corolla-tube nearly 2 cm. long, 7 mm. broad as pressed, cylindrical, the middle portion somewhat dilated, the lobes abruptly spreading, 1 cm. long; immature pod 4 dm. long, linear and very slender. (*No.* 2053, in part, and 2054, in part. An *Arenaria* was also numbered 2053.)

? ECHITES sp. flowers wanting. (*No.* 2844.)

? ECHITES sp. Neither flowers nor fruit present. (*No.* 2271.)

Mandevilla boliviana (Britton) Rusby. (*Echites boliviana* Britton; Rusby, Mem. Torrey Club 4: 219.) (*No.* 2057.) The same as *no.* 551 and *Rusby* 2381.

Mandevilla Rusbyi Britton, sp. nov.

Coarsely and somewhat harshly short-tomentose throughout, in-

cluding the outer surface of the corolla and the fruit, the hairs glistening, the upper leaf-surfaces somewhat strigose; stems stoutish, terete; petioles 0.75–1.5 cm. long, very stout; blades 0.7–1.2 dm. long, 3.5–6 cm. broad, oval varying to slightly ovate or obovate, narrowly cordate at the base, abruptly and acutely short-pointed at the apex, thick and coriaceous, of a rather deep green above, gray underneath, the rather coarse midrib and primaries lightly prominent both sides, the latter about 12 pairs, nearly at a right-angle with the midrib and slightly ascending; peduncles rather short, the rachis flexuous, nodose, many-flowered; pedicels stout, angled, about 5 mm. long; calyx 7–9 mm. long, deeply cleft, the lobes broadly ovate, and narrowly and acutely acuminate; corolla thickish, the cylindrical portion of the tube nearly 2 cm. long, the broadly infundibular throat more than 1 cm. long, the lobes 1.5–2 cm. long, apparently acute; pods linear, about 1 dm. long, less than 5 mm. broad, bearing about 7 constrictions, lightly curved, the pair coherent at the apex; seed 8 mm. long, oblong, obtuse, deep-purple, the copious, dense, tawny coma 1.5 cm. long. (*No.* 2843.)

The same as *Rusby* 2387, from which the description of the seed is taken.

Dipladenia cuspidata sp. nov.

Softly canescent, the upper leaf-surfaces nearly glabrous except along the midrib; stems simple, erect, stout, in my specimens 5–7 dm. high; stipules 4 mm. long, 2.5 mm. broad, triangular-ovate, acute, purplish-brown; petioles 3–5 mm. long and nearly as broad; blades 0.5–1 dm. long, 3–6 cm. broad, oval, lightly cordate, broadly cuspidate, entire, coriaceous, thick, the midrib and 6 pairs of secondaries slightly impressed above, prominent underneath, the secondaries communicating close to the margin, the venation finely reticulate; flowers shortly racemed at the summit, the base partly concealed by the upper leaves; pedicels 5–9 mm. long, very stout; calyx 7 mm. long, campanulate, lightly contracted toward the summit, lobed nearly half way, the lobes very broad, overlapping, rounded at the apex; corolla 7 cm. long, the tube infundibular, passing gradually into the broadly campanulate limb, purple (?), coriaceous. (Specimen without number, or data.)

Species near *D. gentianoides* and similar to *Pearce* 797, but the indumentum is not the same.

? RHABDADENIA sp. Flowers wanting. (*No.* 1950.)

ASCLEPIADACEAE

AMBLYSTIGMA PEDUNCULARE Benth. in Hook. Ic. Pl. 12: 77. *pl.* 1188. (This was sent by Mr. Bang as part of *no.* 1254, which is *Schistogyne attenuata* Rusby, and some may have been distributed under that number.) It is the same as *Mandon* 353.

OXYSTELMA SOLANOIDES (H.B.K.) K. Schum.; E. & P. Nat. Pfl. 4²: 229. (*Philibertia solanoides* H.B.K. Nov. Gen. 3: 196, pl. 230.) (No. 1815.) The same as *Mandon* 352 and *Rusby* 1973.

OXYSTELMA VAILIAE Rusby *ante*, p. 315. (No. 2005.) The same as no. 985.

ARAUJIA GRANDIFLORA (Mart. & Zucc.) Morong, Trans. N. Y. Acad. Sci. 12: 161. (*Schubertia grandiflora* Mart. & Zucc. Nov. Gen. 1: 57.) "Grows in wet soil near river, the flowers creamy-white; scarce." Coripata, March 11, 1894. (No. 2088.)

GOTHOFREDA PROPINQUA (Decne.) Kuntze, Rev. Gen. Pl. 420. (*Oxypetalum propinquum* Decne.; DC. Prodr. 8: 582.) This may prove to be a distinct species. The appendages are a little longer. It was sent by Mr. Bang as a part of no. 1254.

ASCLEPIAS COCHABAMBENSIS Rusby, Mem. Torrey Club 4: 221. (No. 2059.) The same as no. 982.

ASCLEPIAS CURASSAVICA L. Sp. Pl. 215. "Grows 2-4 ft. high, in wet clay along roadsides, the flowers red and yellow." Calapampa, July 22, 1894. (Nos. 2060 and 2358.)

METASTELMA MATHEWSII Rusby, Bull. Torrey Club 25: 497. 1898. "Grows in rather wet mould; scarce." Coripata, March 12, 1894. (No. 2090.) The same as *Rusby* 2543.

Amphistelma (*Metastelma*) *Pearcei* sp. nov.

Softly grayish-pubescent throughout; branchlets slender, rather rigid, terete; petioles 4-6 cm. long, very slender; blades 1-2 cm. long, 0.7-1.5 cm. broad, ovate, rounded at the base, pungently mucronate at the apex, the very slender venation inconspicuous on both sides; flowers solitary or 2-3-fascicled, nearly sessile; calyx 2 mm. broad, the short tube acute; corolla-tube short-cupulate, 1 mm. broad, the lobes nearly 2 mm. long, lance-linear, spreading; crown scarcely equaling the stamens, fleshy, erect, cupulate, irregularly and rather deeply 5-lobed. Fruit not seen.

"Scarce in rich, stony soil. A climber, with greenish-white flowers." Coripata, March 15, 1894. (No. 2089.)

DITASSA RACEMOSA Britton; Rusby, Bull. Torrey Club 25: 498. 1898. "Grows 8-10 ft. high each year, after being burned. Grows in clay and gravel." Coripata, April 22, 1894. (Nos. 2140 and 2845.) Mixed with no. 2140 was sent a totally different plant, in fruit (the fruit tomentose), the genus not determinable, possibly a *Metastelma*. The same as *Rusby* 2546.

Ditassa apiculata sp. nov.

Branchlets slender, finely striate, pubescent with short, spreading or slightly reflexed hairs; petioles 2-4 mm. long, stout; blades 2-4 cm. long, 0.5-1.5 cm. broad, oblanceolate, acute at the base, pungently mucronate at the apex, thickish, deep-green above, pale underneath, the finely reticulate venation inconspicuous on both sides, the whitish midrib very stout and prominent underneath; peduncles of the umbels 2-3 mm. long, stout; umbels loosely about 5-flowered; pedicels nearly 1 cm. long, ribbed; calyx green, crateriform, 3 mm. broad, divided to the base, the lobes ovate, acute, the margins hyaline; corolla thickish, pubescent within, the tube tuberculate, nearly 2 mm. long, the lobes lanceolate, obtuse, 5 mm. long, erect-spreading; filament-tube 1 mm. long, a little shorter and half as broad as the anther-tube; crown free from the corolla, adnate to the filaments up to the base of the anthers, of 5 ligules; body of the ligules a little more than 1 mm. long, oval-obovate, concave, appendaged at the apex with a linear, attenuate tail 2 mm. long and from the middle of its concave face with a smaller one which exceeds it by nearly 1 mm.; apical anther-appendages erect, ovate, slightly pointed, nearly 1 mm. long and as long as the broadly conical, obtuse, white stigmatic disk. (*No* 2846.)

VAILIA MUCRONATA Rusby, Bull. Torrey Club 25: 11. 1898. (*No*. 2058.) The same as *no*. 1275 and *Rusby* 2547.

LOGANIACEAE

SPIGELIA ELONGATA Britton; Rusby, Bull. Torrey Club 25: 542. 1898. (*No*. 2507.)

BUDDLEIA VERBASCIFOLIA H.B.K. Nov. Gen. 2: 351. "A shrub about 15 ft. high, growing in damp clay, the flowers yellowish-green; scarce." Calapampa, July 18, 1894. (*No*. 2349.)

The same collected by *Triana* in New Granada.

BUDDLEIA MONTANA Britton, Bull. Torrey Club 25: 544. 1898. (*No*. 1838.)

Buddleia coroicense sp. nov.

Ferruginous-tomentose, except the upper leaf-surfaces, which are lightly scabrous; branchlets elongated, very slender, waving; petioles 0.5-1.5 cm. long, very stout, inserted into a low cup-shaped base; blades 1-1.5 dm. long, 2.5-6 cm. broad, ovate, rounded at the base, acuminate and acute at the apex, the slender venation obscure above, sharply prominent underneath; heads loosely racemed, about 1 cm. broad, subtended by lance-linear bracts about two-thirds of their length; calyx 3 mm. long, lobed half-way, the lobes and sinuses of similar form, triangular-ovate and acutish; corolla-

tube campanulate, 3 mm. long, the lobes 2.5 mm. long, spreading abruptly, nearly semicircular, but the margins strongly recurved, making them appear triangular and acute: anthers about 1 mm. long, oval, minutely apiculate, the filaments very short; disk saucer-shaped, 1 mm. broad, ovary globose or a little elongated, 1 mm. broad; style 1.5 mm. long, stout, curved, the stigmas 1 mm. long, darker than the style.

"Climbing 4 to 6 feet high in dry mould, the flowers white [but they are evidently deep-purple—H.H.R.]." Near Coroico, Yungas, July 8, 1894. (No. 2327.) *Pearce's* specimens, collected at the same place, July 1866, are less tomentose. *Mandon* 347 may be the same.

GENTIANACEAE

MICROCALA QUADRANGULARIS (Lam.) Griseb. in DC. Prodr. 9: 63. (*Gentiana quadrangularis* Lam. Encyc. 2: 645.) (No. 1868.)

RUSEYANTHUS CINCHONIFOLIUS Gilg; E. & P. Nat. Pfl. 4¹: 95. (Specimen without number.)

GENTIANA PRIMULIFOLIA Griseb. Gen. et Sp. Gent. 221. (Nos. 1888 and 1889.)

?*GENTIANA INCURVA* Hook. Bot. Misc. 2: 228. 1831. (No. 2025.) The specimen is not in good condition. It is apparently the same as *Spruce* 5570, *Lobb's* Columbia 334 and specimens collected by *McLean* at Cerro de Pasco and by *Bridges* and by *Pearce*.

GENTIANA PUNICEA Wedd. Chloé. And. 2: 70. (No. 2671.)

POLEMONIACEAE

CANTUA PYRIFOLIA Juss. Ann. Mus. Par. 3: 117. 1804. (No. 3002.)

MICROSTERIS GRACILIS (Dougl.) Greene, Pittonia 3: 301. (No. 1874.)

BORAGINACEAE

TOURNEFORTIA SALZMANNI A. DC. Prodr. 9: 524. "Grows 2–4 ft. high, in wet clay, the flowers green; scarce." Coripata, Yungas, March 1, 1894. (No. 2076.) The same as *Mandon* 389 and *Glazion* 11295.

TOURNEFORTIA ANDINA Britton; Rusby, Bull. Torrey Club 26: 148. 1899. (No. 1775.)

TOURNEFORTIA OBSCURA A. DC. Prodr. 9: 517. "A shrub about 5 ft. high, with greenish-white flowers; in mud and clay." Coroico, September, 1894. (*No.* 2470.) The same as *Rusby* 1922.

Tournefortia ovalifolia sp. nov.

Branchlets elongated, stoutish, purple, harsh, with very short, stout, scattered hairs, the hairs of the inflorescence, calyx and corolla becoming more slender and soft; petioles about 1 cm. long, broadly channeled, dilated at the base; blades 0.6–1 dm. long, 3–6 cm. broad, oval, abruptly slightly produced at the base and abruptly and acutely short-pointed, thin, dark-green, the venation not prominent above, the midrib and 10–12 pairs of strongly ascending secondaries prominent underneath, yellowish or purplish; peduncle 2–3 cm. long, stout; cyme successively bifurcating, the branches elongated and stout and the cyme ultimately very broad; flowers about 2–3 mm. apart; pedicels 2–3 mm. long, stoutish; calyx 2 mm. long, 1.5 mm. broad, deeply parted, the base truncate, the lobes lanceolate, erect; corolla-tube cylindraceous, 5 mm. long, 1.5 mm. broad as pressed, the lobes 1.5 mm. long, rotund-oval; style 3 mm. long, very stout, the stigma 1 mm. long, conical, 1 mm. broad and annulate at the base; fruit (mature?) globose-ovoid, 3 mm. long and broad.

"A small plant with green flowers; scarce in forest-mould." Unduavi, September 4, 1894. (*No.* 2488.)

HELIOTROPIUM INUNDATUM Swartz, Prodr. Veg. Ind. Occ. 40. (*No.* 2848.)

Heliotropium (*Orthostachys*) **Bangii** sp. nov.

Gray-pilose with rather short, appressed hairs; stems numerous from a short base, spreading, 1–1.5 dm. long in my specimens, slender; petioles 3–7 mm. long, broad; blades 1.5–3 cm. long, 0.5–1 cm. broad, oval-ovate, acute at the base, blunt or obtuse at the summit, bright-green, the midrib and 2 or 3 pairs of secondaries impressed above, at least in the young leaves, very prominent and strongly pilose underneath; cymes in the upper axils, 3–5 mm. long, racemiform; pedicels 2 mm. long; calyx campanulate in flower, parted to the base, the lobes 2 mm. long, oval, obtusish; corolla-tube 1 mm. long, campanulate with contracted summit, the lobes nearly 1 mm. long, spreading, white; anthers less than 0.5 mm. long, ovate, short-acuminate, reaching to the base of the lobes; pistil 0.5 mm. long; ovary brownish-yellow, globose; stigma about half as large as the ovary; fruit a little more than 2 mm. broad, a little less than 2 mm. long, compressed, umbilicate at the apex, cordate at base, papillose, the nutlets closely coherent in pairs. (*No.* 2847.)

Nos. 1971 and 2505 are the same.

ERITRICHIIUM WALPERSII (A. DC.) Wedd. Chlor. And. 2: 90.
(*Antiphytum Walpersii* A. DC. Prodr. 10: 122.) (Nos. 1908
and 1962.) The same as *Mandon* 379 and *Rusby* 2581. Not
the same as *Mandon* 381.

CONVOLVULACEAE

IPOMOEA FLORIBUNDA Moric. Pl. Nouv. Am. 46. pl. 31. (No.
2246.) The same as *Rusby* 1994.

? IPOMOEA PES-CAPRAE (L.) Roth, Nov. Pl. Sp. 109. (*Con-
volvulus Pes-caprae* L. Sp. Pl. 159.) (No. 1992.)

IPOMOEA OPULIFOLIA Rusby, Bull. Torrey Club 26: 144. (No.
2506.)

CALONYCTION ACULEATUM (L.) House, Bull. Torrey Club 31:
590. 1904. (No. 2027.) The same as no. 589 and *Rusby*
1990 and 1993.

PHARBITIS HEDERACEA Choisy, Mem. Soc. Phys. Genève. 6: 440.
1833. (No. 2850.)

PHARBITIS PURPUREA (L.) Voigt, Hort. Suburb. Calc. 354.
(*Convolvulus purpurea* L. Sp. Pl. ed. 2. 219. *Pharbitis his-
pida* Choisy, Mem. Soc. Phys. Genève. 6: 440. 1833.) "The
small flowers red, half-red and half-white, and sometimes quite
white." Coripata, March 28, 1894. (No. 2113.) This is the
same as no. 750 published as "*Ipomoea* sp."

JACQUEMONTIA DENSIFLORA Rusby, Bull. Torrey Club 26: 151.
1899. (No. 2849.) The same as *Rusby* 1845.

EVOLVULUS HOLOSERICUS H.B.K. Nov. Gen. 3: 116. (No.
2006.) The same as *Mandon* 1492.

EVOLVULUS CANESCENS Meissn. in Mart. Fl. Bras. 8: 350. (No.
2274.)

DICHONDRA REPENS Forst. Char. Gen. 40. pl. 20. (No. 2212.)

SOLANACEAE

SOLANUM ASARIFOLIUM Kunth & Bouché, Ind. Sem. Hort. Berol.
1845: 10. (No. 2521.) The same as no. 1235.

SOLANUM ASPERUM Vahl, Eclog. Am. 2: 17. (Specimen without
number.) The same as *Rusby* 722 and 788.

SOLANUM ATRIPLICIFOLIUM Gill.; Nees, Nov. Act. Nat. Cur. 19:
Suppl. 1: 386. 1843. "A small, widely branching plant, grow-
ing in sand, among stones, near the river. But one found.
Flowers white." Coroico, August, 1894. (No. 2392.)

Solanum bolivianum Britton, sp. nov.

A large shrub, bearing scattered small, nearly straight, short and stout yellow prickles on the branchlets and lower surfaces of the petioles and midribs, all of which are of a very dark-brown; petioles thickish but weak, 3-6 cm. long; blades 2-3 dm. long and more than two thirds as broad, inequilaterally oval-ovate, obscurely cordate at the base, very coarsely few-toothed with rounded sinuses, thin, dark-green, minutely scabrous above, minutely ferruginous underneath, with 5-7 coarse flat secondaries on each side; cymes small (those seen about 7 cm. broad and about 20-flowered), on short and slender peduncles; mature bud oblong, obtuse, about 1 cm. long, 4 mm. broad; calyx 5 mm. broad, the tube cupulate, the lobes broadly ovate and short-acuminate, the sinuses rounded; corolla 1.5 cm. or more broad, deeply lobed, apparently white; anthers 5-6 mm. long, nearly straight, narrowly lanceolate; style slender, nearly twice the length of the anthers.

"A shrub, 20 ft. high, growing on sandy river-bed." Coroico, September, 1894. (*No.* 2436, type.) The same as *Rusby* 778.

SOLANUM CYMOSUM R. & P. Fl. Per. 2: 31. *pl.* 160. (*No.* 2870.)

SOLANUM CAMPYLOCLADUM MAGDALENÆ Dunal, in DC. Prodr.

13¹: 173. (*No.* 2523.) Probably a *Brachistus*, but I have no flowers of the plant. The same as *Rusby* 784 and 798.

?*SOLANUM CLAVATUM* Rusby, Mem. Torrey Club 6: 87. (*No.* 2618.) The buds and flowers are fully twice as large as in the type, and more elongated.

SOLANUM DECCURUM Sendtn. in Mart. Fl. Bras. 10: 83. (*No.* 2516.) The same as *Spruce* 1873.

SOLANUM GRANULOSO-LEPROSUM Dunal, in DC. Prodr. 13¹: 115.

"A shrub, 6 to 8 ft. high, in wet forest-mould, the flowers white." Unduavi, September, 1894. (*Nos.* 2478 and 2528.)

It is the same as Grisebach's "*S. verbascifolium*" in Herb. Kew, from the Argentine.

SOLANUM LEPTOCAULON Huerck & Muell.-Arg. in Huerck, Obs. Bot. 40. (*Nos.* 1914 and 2024.) The same as *Mandon* 404.

SOLANUM LILACINUM Rusby, Bull. Torrey Club 26: 189. (*No.* 2023.)

SOLANUM LINDENII Rusby, Mem. Torrey Club 6: 88. "A shrub, 4-6 ft. high, in rich forest-mould near the river; abundant." Coripata, May 12, 1894. (*No.* 2188.)

SOLANUM LYCIOIDES L. Mant. 1: 46. (No. 2508.) The same as *Rusby* 803. Not *Rusby* 833 or 835, nor *Bang* 32, which were published under this name. The last three represent a distinct species which is published below.

SOLANUM MAGLIA Schlecht. Hort. Hal. 6. (No. 2519.)

SOLANUM MANDONIS Huerck & Muell.-Arg. in Huerck, Obs. Bot. 78. Coroico, August. (No. 2619.) No. 2075 is probably also of this species. Of this Mr. Bang says: "A tree 15 ft. high, growing in dry clay, the flowers yellow and blue." Coripata, March 6, 1894.

SOLANUM MYRIANTHUM Britton, Bull. Torrey Club 26: 191. 1899. (No. 2514.)

SOLANUM OCHROPHYLLUM Huerck & Muell.-Arg. in Huerck, Obs. Bot. 50. (No. 1931.) This is the same as no. 1630, which was published without specific name.

SOLANUM PTEROCLADUM Huerck & Muell.-Arg. in Huerck, Obs. Bot. 44. (No. 2872.)

SOLANUM PSIDIIFOLIUM Rusby, Bull. Torrey Club 26: 194. (No. 2250.) At different times, Mr. Bang sent two forms under this number. The typical plant is sparingly stellate-pubescent, the leaves broad, inequilateral and obtuse, the flowers in small, short-peduncled, pseudo-axillary cymes; the other densely stellate, the leaves narrower, equilateral, acute, the cymes looser and larger and long-peduncled. The difference is probably due to the latter being on young shoots, the former on old branchlets. The narrow-leaved form closely resembles *S. Lindenii*, but that is glabrous.

SOLANUM PYCNANTHEMUM Mart. Flora 20³: Beibl. 120. 1837. (No. 2869.)

SOLANUM RADICANS L. f. Dec. 1: 19. pl. 10. "Grows about houses, the flowers white and yellow. Used medicinally as a blood purifier, under the name of 'Cuti-cuti.'" Coripata, February 22, 1894. (No. 2062.)

SOLANUM RUSBYI Britton; Rusby, Bull. Torrey Club 26: 191. 1899. (No. 1881.)

SOLANUM TABACIFOLIUM Salzm.; Dun. in DC. Prodr. 13¹: 261. (Nos. 2527 and 2868.) The same as *Burchell* 4938 and *Gardner* 553.

SOLANUM VALIDUM Rusby, Mem. Torrey Club 4: 230. (No. 2511.)

Solanum (*Inermes*) vulpinum sp. nov.

Very densely and thickly stellate-tomentose, the younger portions deep rusty-red, the older yellow-gray; shrubby, the very stout (8 mm. thick) branchlets hollow or with a large pith; petioles 1.5-3 mm. long, 4-7 mm. thick; blades 1.5-3 dm. long, 1-1.5 dm. broad, ovate to oval, inequilateral, especially the subcordate base, short-pointed and acute at the summit, entire, very thick, paler underneath, the coarse, weak venation little projecting on either side; cymes short-peduncled, dichotomous, 1 dm. or more broad, open but the branchlets densely flowered; pedicels 5-7 mm. long, very stout; calyx about 4 mm. broad, 2-3 mm. long, crateriform, subtruncate with sinuately 5-lobed margin; corolla (purple or violet) 2.5 cm. broad when expanded, deeply lobed; anthers drying blackish, 7 mm. long, narrowly lanceolate, slightly incurved above, the small pores looking upward and slightly inward; fruit not seen. (*No.* 2256.)

The same as *Mandon* 420.

Solanum rosulatum sp. nov.

Shrubby; gray with rather dense stellate indumentum, the upper leaf-surfaces somewhat strigose; branches stout, flexuous, widely branching, densely leafy at the ends; petioles 0.5-1 cm. long, broad, margined; blades 3-5 cm. long, 1.5-2 cm. broad, lance-ovate, rounded at the base, regularly acuminate and acute, thickish but flaccid, the venation weak and obscure; peduncles 1.5-2 cm. long, stoutish; cymes dichotomous, 5-6 cm. broad, about 20-flowered; pedicels 5-8 mm. long, slender, sharply deflexed; calyx 4 mm. long, lobed about midway, the lobes ovate, acute; corolla violet, 6-7 mm. long, stellate-tomentose; anthers bright-yellow, 4 mm. long, slightly broadened at the summit, the large pores looking almost directly inward; style stout, strongly curved, much longer than the anthers, the stigma little broader, elongated; fruit (dark-red?), about 1 cm. in diameter. (*No.* 2518.)

Solanum symmetrifolium sp. nov.

Grayish with a fine stellate pubescence; stems herbaceous, the branches widely divaricate-spreading and apparently reclining; petioles about 5 mm. long, margined; blades 3-10 cm. long, 1-4 cm. broad, ovate, the base abruptly contracted into the short tapering petiole, obtuse at the apex, entire, thin and flaccid, the venation coarse and weak; peduncles about 1 cm. long, forking into two sub-divaricate and nearly equal branches; pedicels loosely arranged, mostly 5-7 mm. long, slender; calyx herbaceous, 3-4 mm. long (slightly enlarging in fruit), lobed about half way, the lobes ovate, obtuse; corolla (white or violet) 5 mm. long, deeply lobed; anthers bright-yellow, nearly 5 mm. long, lance-oblong, the large, elongated pores looking inward; style very slender, little exceeding the stamens, the stigma small, elongated; fruit apparently greenish or light-red, globular, about 5 mm. in diameter. (*No.* 2870.)

The same as *Mandon* 396. Species near *S. filiforme*.

Solanum stipuloideum sp. nov.

Sparsely and very shortly stellate on the lower leaf-surfaces and calyx; a low diffuse or reclining herb; branches very slender, flexuous, angled, pale; petioles 0.5-3 cm. long, mostly with one or two small stipuloid leaves at the base; blades 2-4 cm. long, 1-3 cm. broad, ovate, truncate to slightly cordate at the base, short-acuminate and obtuse at the apex, entire or obscurely sinuate-dentate, very thin and flaccid, dark-green above, pale underneath, the weak venation coarse and irregular; pedicels mostly solitary, 1-3 cm. long, filiform; calyx 5 mm. long, the turbinate tube very short, the herbaceous lobes lance-ovate, obtuse; corolla white, nearly 1.5 cm. long, not deeply lobed, the lobes acutish; anthers bright-yellow, 5 mm. long, broadly oblong, straight, the small pores looking inward and slightly laterally; style 2-3 mm. longer than stamens, the stigma broad. (No. 2509.)

Species near *S. boerhaavifolium* but not having its stem or calyx.

Solanum poecilochromifolium sp. nov.

Finely gray-puberulent throughout, except the fruit, the stems shrubby; branchlets numerous, erect, rather slender, densely leafy; petioles 3-4 mm. long, stout, margined; blades 1.5-3 cm. long, 0.7-1.5 cm. broad, ovate, the rounded base abruptly narrowed into the petiole, obtuse, entire, bright-green, thin, the venation coarse but weak, rather prominent both sides; cymes terminal, stoutly peduncled, appearing racemose, about 5-10 flowered, the flowers bright-blue; pedicels slender, 1 cm. or less long; calyx-tube turbinate, about 2 mm. long, the lobes herbaceous, weak, nearly as long, ovate, obtuse; corolla 1.5 cm. broad, thin, reflexed, shallowly lobed; anthers bright-yellow, 4 mm. long, linear or slightly broadened upward, the large, elongated pores looking inward; fruit (immature) sub-globular, smooth, 7 mm. in diameter. (No. 2515.)

Solanum (?) bassoviicarpum sp. nov.

Unarmed (?), scurfy throughout, except the corolla and the mature fruit; shrubby, the branchlets rather short, stout, flexuous; petioles 1-1.5 cm. long, stoutish, narrowly channeled above, like the midrib; blades 5-10 cm. long, 2-6 cm. broad, ovate to oval, mostly rounded at the base, short-acuminate and acute at the apex, entire or obscurely sinuate at the margin, thick and rigid, yellowish-green, rough on both surfaces, the venation lightly impressed above, very prominent and strongly reticulate underneath, the 10-12 pairs of secondaries strongly upcurved and communicating close to the margin; flowers fascicled, fascicles about 5-7-flowered; pedicels 1-2 cm. long, thickened and lightly angled above; calyx 5 mm. broad, lobed nearly to the base, the lobes broadly ovate, obtuse or obtusish, recurved, thick; corolla nearly 1.5 cm. broad when fully expanded, lobed nearly to the base, thick, apparently violet, the lobes oval, obtuse; stamens 5 mm. long, oval, truncate, strongly

outwardly curved at the middle, the pores very large, looking inward and laterally; style short; fruit broadly ovoid and pointed when immature, nearly globular and more than 1 cm. broad when mature, dark-red. (*No.* 2524.)

The same as *Pearce's* (from Pinta?), 11,000 to 12,000 ft.

It is with reluctance that I class this plant as a *Solanum*. In habit, inflorescence-characters, calyx and fruit it appears to be a *Bassovia*, but its anthers are connivent and have very conspicuous pores.

***Solanum dianthum* sp. nov.**

Younger portions and leaves sparsely strigose; stems herbaceous, reclining, slender, the branchlets ascending, mostly 1–2 dm. long; petioles 3–8 mm. long, rather broad; blades 2–5 cm. long, 0.7–1.5 cm. broad, regularly ovate to ovate-lanceolate, the rounded base abruptly produced into the petiole, acuminate and acute at the apex, entire, thin, bright-green, or yellowish-green underneath, where the slender venation is lightly prominent; cymes mostly 2-flowered, the pedicels slender and weak, 0.7–1.5 cm. long; calyx about 6 mm. long and broad, campanulate, green, densely pilose, lobed two fifths of the way, the lobes erect, triangular, slightly longer than broad, acute; corolla bluish-white, very thin, about 1 cm. long; anthers yellow, 4 mm. long, 1.5 mm. broad, lance-oblong, blunt or truncate, the large pores looking inward, upward and a little laterally; style 1.5 mm. longer than the anthers; fruit globose, slightly depressed, nearly 1 cm. in diameter, apparently green and glabrous at maturity.

“Climbing a few feet, the flowers bluish white; scarce in wet mould.” Unduavi, September, 1894. (*No.* 2492.) Near *S. boerhaavifolium* and *S. cyathicalyx*.

***Solanum sarachioides* sp. nov.**

Stellate pubescence sparse, except on the youngest portions; branches elongated, slender, herbaceous, sparsely leafy; petioles 1–2 cm. long; blades 6–9 cm. long, 4–5 cm. broad, ovate, short-pointed and acute, the broad rounded base abruptly produced into the margined petiole, entire, very thin, dark-green; peduncles elongated, slender, appearing lateral from the internode; cymes few- (those seen 4- or 5-) flowered; pedicels slender, weak, 1–1.5 cm. long; calyx herbaceous, 4 cm. long, lobed more than half-way, the lobes ovate, obtuse; corolla blue or violet, nearly 1.5 cm. broad, the lobes reflexed; anthers yellow, 4 mm. long, 1.5 mm. broad, elliptical-oblong, the large pores looking inward and laterally; fruit not seen. (*No.* 2517.)

***Solanum carnosipes* sp. nov.**

Branches stout, fleshy, and like the petioles, peduncles, pedicels and calyx, coarsely white granular-scabrous; petioles very thick,

fleshy, 4-6 cm. long, a small elliptical stipule-like leaf, 1.5 cm. long, 1 cm. broad, at the base; blades 1-2.5 dm. long, 0.8-1.5 dm. wide, oval, rounded at the base, short-pointed and obtuse at the summit, entire, thin, underneath gray and densely short stellate-tomentose, slightly harsh, above yellowish-green, stellate-scabrous, the venation slightly impressed; peduncles elongated, very stout, the rachis strongly dilated at the branches; cyme 1-2 dm. or more broad; pedicels very stout, nearly 1 cm. long in flower; calyx 3 mm. long, 6 mm. broad, the tube nearly hemispherical, the lobes a little more than 1 mm. long, triangular-ovate, acute, broader than long, thick and rigid; corolla-bud nearly globose, 6 mm. in diameter; corolla stellate-tomentose, apparently white, 1.5-2 cm. broad; anthers yellow, 4 mm. long, oblong, the apex slightly incurved, the large pores looking directly inward; style slightly exceeding the stamens, the stigma elongated, inequilateral; fruit not seen. (No. 2932.)

Probably the same as no. 259 and Mandon 423. Species near *S. auriculatum*.

Solanum brevipedunculatum sp. nov.

Glabrous, the branches elongated, herbaceous, rather stout but weak; petioles 3-4 cm. long, stout, margined and channeled; blades 1-3 dm. long, 0.6-1.2 dm. broad, ovate, the base rounded or abruptly produced into the petiole, acute at the apex, entire, very thin, deep-green, the midrib channeled above, prominent below, like the 12-14 very slender secondaries; peduncle short, slender, the rachis secund-flowered, subcircinate, compoundly racemose-flowered; pedicels 1-2 cm. long, slender, articulated to a nodular base; calyx 4-5 mm. broad, truncate with a lightly sinuate margin; corolla-bud oval with rounded apex, the (white?) corolla lobed nearly to the base, the lobes nearly 1 cm. long, 4 mm. broad, ovate, obtuse; anthers yellow, 6 mm. long, oblong, straight, the large elongated pores looking inward and a little upward; fruit not seen. (No. 2525.)

The species is peculiar in its inflorescence and calyx, which, with the habit, are those of *Cyphomandra*, while it lacks the thickened connective of that genus.

? *Solanum* sp. (No. 2522.) Flowers are lacking.

CYPHOMANDRA BETACEA (Cav.) Sendt. *Flora* 28: 172. 1845.

(*Solanum betaceum* Cav. *Anal. Hist. Nat.* 1: 44. 1799. — *l.c.* 6: 15. *pl.* 524.) (Specimen without number.) Apparently the same as no. 2337, of which Mr. Bang says, "A shrub, 8-10 ft. high, growing in wet forest mould, the flowers white. The fruits are as in 2281 [*C. acuminata* Rusby], but the leaves and flowers are very different. Called 'Lima tomato.'" Calapampa, July 11, 1894.

CYPHOMANDRA FRAXINELLA Sendt. in Mart. Flor. Bras. 10: 122.
(No. 2248.) The same as *Rusby* 800.

CYPHOMANDRA ACUMINATA Rusby, Bull. Torrey Club 25: 196.
(No. 2281).

VASSOBIA gen. nov.

Calyx small, the tube short-turbinate, the limb crateriform, lightly and unequally lobed; corolla valvate, broadly campanulate, apparently viscid; stamens 5 (occasionally 6), included, adherent to the base of the corolla-tube, one higher than the others, the filaments much shorter than the anthers, dilated at the base, the anthers oblong, straight, their cells parallel, without pores, dehiscing completely, the connective not thickened in the back; disk obscure, fleshy, adherent to the base of the ovary, which is glabrous and 2-celled; style stout, at first declined and sigmoid, at length nearly straight, thickened toward the summit, the stigma lightly and unequally 2-lobed; fruit not seen.

A large herb (?) with simple, membranaceous, flaccid leaves and lax, terminal clusters of cymes which elongate by the successive evolution of the branches of one side. The rachis is nodose by the prominent scars of fallen flowers.

This plant has cymes which much resemble those of *Cyphomandra*, but want the thickened connective of that genus. From *Solanum*, it is excluded by the absence of anther-pores. Its flowers are nearly those of *Poecilochroma*, but the habit, and especially the foliage and inflorescence, are totally different.

Vassobia atropoides sp. nov.

Finely viscid-pubescent, the branchlets slender and, like the foliage and inflorescence, widely spreading; petioles 5-10 or more cm. long; blades 10-25 cm. long, 7-18 cm. broad, obtuse or acutish, at the base acute, thin, drying brownish; cyme compound, the peduncles of its principal branches 5-8 cm. long; pedicels 1.25-2.5 cm. long, dilated toward the summit, fleshy; calyx about 4-5 mm. broad, the rounded lobes short and very broad; corolla deep blue-purple, about 1 cm. long, campanulate, divided one third of the way to the base; stamens nearly equaling the tube of the corolla; anthers 3 mm. long, straight, oval, yellow, on very short filaments; fruit not seen. (No. 2615.)

PHYSALIS BARBADENSIS Jacq. Misc. 2: 359. (Specimen without number.) The same as *Jenman* 5086 and *Bernoulli* 175 from Guatemala.

PHYSALIS PERUVIANA L. Sp. Pl. ed. 2. 1670. (No. 1783.)

PHYSALIS SURINAMENSIS G. Miquel, *Linnaea* 17: 741. 1844.
(Specimen without number.) The same as *Hostmann & Kappeler's* type.

***Physalis Rydbergii* sp. nov.**

Younger portions, and especially the calyx, hispid with branched white hairs; stems stout, but weak, widely branched, the branches slender; petioles 1-2 cm. long, slender; blades 2-6 cm. long, 1-3 cm. broad, ovate, inequilateral, especially at the broad base, acuminate and acute at the apex, coarsely and irregularly dentate, very thin and flaccid, bright-green, the venation slender, very prominent underneath, the principal secondaries about 5 on one side, 4 on the other, the lowermost with a stout basal branch; pedicels 3 mm. long, little elongating in fruit; calyx, in flower 5 mm., in fruit 1.7 cm. long, ovate, acute; corolla 7 mm. long, very pale, the base loosely enclosed in the calyx. (No. 2520.)

Species near *P. minima*, but differing in the indumentum. *Palmer* 472 from Guadalajara, Mexico, appears to be a more hispid form of this species, while *Müller* 1855 from Veracruz is possibly a smooth form.

BASSOVIA ANCEPS (R. & P.) Rusby, Bull. Torrey Club 26: 197. 1899. (Nos. 2513 and 2526.)

BRACHISTUS LASIOPHYLLUS (Dunal) Rusby, Bull. Torrey Club 26: 198. 1899. (No. 2617.)

***Brachistus fasciculatus* sp. nov.**

Softly gray-tomentose with stellate hairs; branches slender, woody, terete; petioles 2-3 cm. long, narrow, lightly channeled; blades 7-14 cm. long, 3-5 cm. broad, oblong-ovate, acute at the base, regularly acuminate and acute at the apex, entire, thin and flaccid, deep-green above, gray underneath, the venation very slender, reticulate, lightly prominent both sides; pedicels fascicled, 2-3 cm. long, very slender, gradually thickened upward; calyx-tube 2-3 mm. long, 4 mm. broad, the 10 teeth filiform, 4-5 mm. long; corolla white, 1-1.5 cm. long, shallowly lobed; fruit not seen. (No. 2871.)

The same as *Mandon* 411 and 412.

***Poecilochroma macrophylla* sp. nov.**

Branches elongated, stout, terete, roughened with slender, curved, corky excrescences; petioles 1-2 cm. long, narrow considering the size of leaf, channeled above; blades 0.7-1.5 dm. long, 3-6 cm. broad, ovate, oval, or some obovate, acute at the base, mostly obtuse at the apex, entire, bright-green, glabrous, but strongly and finely wrinkled in drying, thickish, midrib channeled above, venation lightly prominent underneath, secondaries about 7 pairs, intercon-

necting about one third of the way from the margin to the midrib; flowers densely fascicled; pedicels 2.5–5 cm. long, slender, thickened upward, much wrinkled in drying; calyx 5 mm. long, 7 mm. broad, 5-lobed, the lobes nearly semicircular, lightly costate, minutely apiculate; corolla (apparently yellowish-white with a darker center) 2.5 cm. long, very broadly campanulate, lightly stellate; filaments slightly unequal, filiform, about 1.5 cm. long; anthers 4 mm. long, broadly oblong, lightly curved; fruit not seen.

“A shrub, 8 ft. high, with yellowish-white flowers, growing in wet forest mould.” Unduavi, September, 1894. (*No.* 2482.)

Poecilochroma venosa sp. nov.

Densely branching, the branchlets thick but weak, terete, recurved-spreading, densely roughened with fine corky excrescences, rich-brown, densely leafy; petioles 1–3 mm. long, broad, margined; blades 2.5–4 cm. long, 1–2 cm. broad, oval-ovate, subrotate at the base, obtuse at the apex, entire, deep-green, thickish, glabrous, shining, the fine venation strongly impressed above, prominent below, where the wrinkles occur in peculiar wave-like forms; calyx 5–6 mm. long, nearly 1 cm. broad, nearly hemispherical, green, the lobes nearly semicircular, stoutly apiculate; corolla 2.5 cm. long, very broadly campanulate, shallowly lobed, lightly 10-nerved, apparently yellowish-blue, stellate-tomentose; filaments 2 cm. long; anthers 5 mm. long, ovate, curved, thick, yellowish with blue margins; fruit not seen. (*No.* 2007.)

The same as *Lechler 2080* from Peru, and perhaps the same as *Mandon 441*: also collected by *Pearce*.

Poecilochroma brevifolia sp. nov.

Branches stout, terete, ascending or erect, blackish-brown, finely roughened with corky excrescences; petioles 0.5–1 cm. long, channeled above; blades 2–3 cm. long, 1–2 cm. broad, ovate, with rounded base and very blunt summit, entire, slightly thickened, yellowish-green, glabrous, finely wrinkled, the midrib channeled above, with the venation slightly impressed, the latter prominent underneath with a broad midrib, the secondaries about 5 pairs; pedicels few at the ends of the very short branchlets, about 2 cm. long, filiform, little thickened upward; calyx 7–8 mm. long and broad, turbinate, the lobes 4 mm. long, 3 mm. broad, ovate, blunt, minutely apiculate; corolla nearly 3 cm. long, broadly campanulate, shallowly lobed, minutely and sparsely stellate-hairy, yellowish-blue; filaments 1.5 cm. long; anthers 4 mm. long, ovate, blunt, bluish; fruit not seen. (*No.* 2938.)

Apparently the same as *no.* 725. Species very near the last, but the longer petioles with shorter leaves, different calyx-lobes and branchlets, mark it as distinct.

NICANDRA PHYSALOIDES Gaertn. Fruct. 2: 237. *pl.* 131. *f.* 2.

"Five to seven feet high, in cultivated ground, the flowers blue; scarce." Coripata, March 2, 1894. (*No.* 2072.)

DATURA STRAMONIUM L. Sp. Pl. 179. Abundant at Coripata. (*No.* 2137.)

DATURA TATULA L. Sp. Pl. ed. 2. 256. "A small plant, 5-8 ft. high, the flowers blue, open only at night; abundant." Coripata, April 18, 1894. (*No.* 2136.)

BRUGMANSIA SANGUINEA (R. & P.) D. Don, in Sweet, Brit. Flow. Gard. II. *pl.* 272. (*Datura sanguinea* R. & P. Fl. Per. 2: 15.) (*No.* 1942.)

BRUGMANSIA ARBOREA (L.) Steud. Nom. ed. 2. 1: 230. (*Datura arborea* L. Sp. Pl. 179.) (*No.* 1943.)

CESTRUM MATHEWSII Dunal, in DC. Prodr. 13¹: 637. (*No.* 2872.) The same as *no.* 157, published as *C. Parqui*.

CESTRUM CORIACEUM Miers, Lond. Jour. Bot. 5: 161. 1846. "A shrub about 10 ft. high, in wet clay along roadsides, the flowers yellow; scarce." Coroico, September, 1894. (*No.* 2465.)

CESTRUM sp., related to the last, but probably undescribed. (*No.* 1825.)

Cestrum Mandoni sp. nov.

Glabrous; branches elongated, slender, erect, densely leafy, the internodes about 1 cm. long; small falcately oval leaves at the base of the petioles nearly 1 cm. long; petioles about 5 mm. long, broad, margined; blades 5-8 cm. long, 1.5-2.5 cm. broad, lance-oblong, obtuse or somewhat rounded at the base, acute at the apex, entire, rather thin, bright-green, the venation lightly prominent underneath, the slender secondaries about 12 pairs, strongly up-curved; peduncles solitary in the upper axils, stoutish, about 5 mm. long, densely flowered at the summit; pedicels scarcely any; calyx 5 mm. long, cylindraceous-campanulate, or slightly contracted at the mouth, the lobes 2 mm. long, ovate, acuminate; corolla 2.5 cm. long, the tube slenderly funnelform, 4 mm. broad at the summit, the lobes acute in the bud, 4.5 mm. long; stamens and style reaching the mouth of the corolla, the anthers 1 mm. long and nearly as broad; stigma greenish, nearly 1 mm. broad; fruit not seen. (*No.* 2510.)

The same as *Mandon* 452, which has gone under the name of *C. Parqui*.

Cestrum impressum sp. nov.

Densely stellate and scurfy-tomentose, the upper leaf-surfaces sparsely so, the fruit glabrous; branches elongated, spreading,

flexuous, densely leafy; petioles 4-5 mm. long, very stout; blades 0.5-1 dm. long, 2-5 cm. broad, ovate, rounded at the base, acute at the apex, thick, pale-green above with the reticulate venation strongly impressed, yellowish underneath, with the venation lightly prominent; peduncles short and stout, pedicels scarcely any; flowers not seen; fruiting calyx 7 mm. broad, lobed nearly half way, lightly costate, the lobes ovate, obtuse, closely investing the fruit, which is blackish, ovoid, rounded at the summit, nearly 1 cm. long. (*No.* 2516.)

***Cestrum suaveolens* sp. nov.**

Densely yellowish-gray soft-tomentose; branches elongated, stoutish, erect, flexuous; petioles 1-1.5 cm. long, stoutish; blades 3-6 cm. long, 1-3 cm. broad, ovate, rounded or lightly cordate at the base, blunt at the summit, entire, thick, finely reticulate, the venation strongly impressed above, prominent underneath; panicles terminal, leafy; peduncles of the cymes 0.5-1 cm. long, stout, terete; cymes about 2 cm. broad; pedicels proper scarcely any; calyx 6 mm. long, 3 mm. broad, campanulate, the lobes nearly 3 mm. long, triangular-ovate, acutish; corolla (yellowish and densely tomentose) nearly 1.5 cm. long, the tube regularly infundibular, 4 mm. broad at the summit, the lobes 3 mm. long, triangular-ovate; anthers less than 1 mm. long, fully as broad, like the style reaching the mouth of the corolla; stigma greenish, nearly 1 mm. broad. (*No.* 2512.)

The same as *Mandon* 451.

NICOTIANA UNDULATA R. & P. Fl. Per. 2: 16. (*No.* 1858.)

NICOTIANA TOMENTOSA R. & P. Flor. Per. 2: 16. "A tree 15-25 ft. high, growing in good wet mould, the flowers yellowish-white; scarce." Coroico, September 13, 1894. (*Nos.* 2408 and 2614.) The same as *Rusby* 2435.

NIEREMBERGIA PULCHELLA Gill.; Miers, Lond. Jour. Bot. 5: 173. 1846. (Specimen without number.)

BRUNFELSIA HYDRANGAEFORMIS (Pohl) Benth. in DC. Prodr. 10: 108. "Grows in shaded mud; scarce." Uchimachi, July 20, 1894. (*No.* 2352.)

***Schwenckia Mandoni* sp. nov.**

Finely pubescent with spreading hairs; stem a meter or more high, much-branched, the branches elongated, slender, erect; petioles 0.5-1 cm. long, slender; blades 2-7 cm. long, 1-3.5 cm. broad, ovate, lightly cordate at the base, acute, thin but rigid, pale or grayish-green, entire, the venation slender, rather prominent underneath; inflorescence very loosely paniculate, the branches sub-fili-form, elongated, recurved-spreading, linear-bracted; pedicels from almost none to 7 mm. long, slender; calyx 3.5 mm. long, lobed

about one-third of the way, the tube campanulate with five prominent bluish-green angles, the lobes triangular, acute, the sinuses ovate, rounded; corolla blue, loosely enclosed in the calyx, 4.5 mm. long, the cylindraceous tube nearly twice the length of the limb, the bud acuminate and acute.

"Abundant in dry, gravelly soil; the flowers green." Coripata, Yungas, March 22, 1894. (*No.* 2097.) The same as *Mandon* 449.

SCROPHULARIACEAE

FAGELIA BANGII Rusby Mem. Torrey Club 4: 236. (*No.* 1918.)

The same as *no.* 83a.

FAGELIA BARTSIIFOLIA (Wedd.) Rusby, Mem. Torrey Club 4: 236. (Specimen without number.)

FAGELIA MELISSIFOLIA (Benth.) Kuntze, Rev. Gen. Pl. 460. (*Calceolaria melissifolia* Benth. in DC. Prodr. 15: 214.) One or two specimens were sent under the number 83, and may be called 83b.

MIMULUS GLABRATUS H.B.K. Nov. Gen. 2: 370. (*No.* 1876.)

LIMOSELLA AQUATICA L. Sp. Pl. 631. (*Nos.* 1968 and 2606.)

SCOPARIA DULCIS L. Sp. Pl. 116. (*Nos.* 2616 and 2851.)

OURISIA CHAMAEDRIFOLIA Benth. in DC. Prodr. 10: 493. (Specimen without number.)

VERONICA PEREGRINA L. Sp. Pl. 14. (*No.* 2852.)

BUCHNERA ELONGATA Sw. Fl. Ind. Occ. 2: 1061. Guanai, 2,000 ft., 1886. (*No.* 1363.)

? *GERARDIA RIGIDA* Gill.; Benth. in Hook. Comp. Bot. Mag. 1: 206. 1835. (*Nos.* 2530 and 2854.) The Bolivian species of *Gerardia* are extremely difficult, as the material and information accumulated up to the present does not allow us to decide whether there are many species, or a few which are very variable.

GERARDIA LANCEOLATA (R. & P.) Benth. in Hook. Comp. Bot. Mag. 1: 207. 1835. (*No.* 2529.)

Gerardia ovatifolia sp. nov. (*G. lanceolata parvifolia* Benth. in DC. Prodr. 10: 516; but there is a *G. parvifolia* Chapm.) Vic. Cochabamba, 1891. (*No.* 2029.) The same as *Rusby* 1081, and one collected in Lima marked in Herb. Kew. "ex herb. R. & P."

CASTILLEJA FISSIFOLIA L. f. Suppl. 293. (Specimen without number.)

BARTSIA PATENS Benth. in DC. Prodr. 10: 546. (*No.* 2028.) The same as *Rusby* 1090.

BARTSIA HISPIDA Benth. in DC. Prodr. 10: 547. Vic. Cochabamba. (No. 2030.) No. 2031 is apparently a small form of the same species, and is the same as *Mandon* 481.

LENTIBULACEAE

UTRICULARIA ALPINA Jacq. Enum. Pl. Carib. 11. (*U. montana* Jacq. Select. Am. 7. pl. 6.) (Specimen without number.)

UTRICULARIA sp., apparently undescribed, but the specimens lack corollas. (No. 2223.)

GESNERIACEAE

ACHIMENES HEPPIELOIDES Fritsch, Bull. Torrey Club 23: 151. 1896. (Specimen without number.)

SEEMANNIA SYLVATICA (H.B.K.) Hanst. Linnaea 29: 540. 1858. (Specimen without number.)

GESNERIA STACHYDIFOLIA Benth. Pl. Hartw. 230. (No. 2613.) The same as no. 543. Also collected by *Mathews* and by *Pearce* at Santa Cruz, March, 1865. Near *Gardner* 4269, but the flowers sessile and style much shorter.

ALLOPLECTUS PATRISII DC. Prodr. 7: 545. (No. 2540.) The same as no. 1259.

BESLERIA SPRUCEI Britton; Rusby, Bull. Torrey Club 27: 31. 1900. (Nos. 2537 and 2538.) The same as *Rusby* 2149.

BESLERIA LONGIPEDUNCULATA Britton; Rusby, Bull. Torrey Club 27: 69. 1900. (No. 2539.) The same as *Rusby* 2436.

BIGNONIACEAE

ARRABIDAEA OBOVATA DC. Prodr. 9: 185. (Nos. 2242 and 2534.) The same as *Rusby* 1153 and *Burchell* 6630.

BIGNONIA BRACHYPODA DC. Prodr. 9: 145. (No. 2855.)

BIGNONIA CAPREOLATA L. Sp. Pl. 624. (Specimen without number.)

BIGNONIA GLUTINOSA DC. Prodr. 9: 162. "Grows in mould, in forest-shade, beside the river, climbing 15-20 ft., the flowers light-red; scarce." *Coripata*, April 26, 1894. (No. 2159.) The same as *Rusby* 1147 and 1154.

?ADENOCALYMNA BRACTEATUM (Cham.) DC. Prodr. 9: 200. (No. 2535.) Apparently the same as *Rusby* 1130.

AMPHILOPHIUM MOLLE Ch. & Sch. Linnaea 5: 120. 1830. (No. 2222.)

JACARANDA ACUTIFOLIA Humb. & Bonpl.⁵ Pl. Aequin. 1

17. (Specimen without number.)

CRESCENTIA CUJETE L. Sp. Pl. 626. (No. 2536.) The same as no. 1161.

ACANTHIACEAE

RUELLIA HUMBERTIANA (Nees) Lindau, Bull. Herb. Boiss. 3: 366. 1895. (No. 2664.)

RUELLIA BANGII Rusby, Mem. Torrey Club 6: 102. (Nos. 1354 and 2663.) A broad-leaved form.

RUELLIA ELLIPTICA Rusby, Bull. Torrey Club 27: 74. 1900.

"Common in dry ground along roadsides. Flowers very light blue." Coroico, September. (No. 2472.)

Ruellia Willdenoviana (Nees) Lindau. (*Stemonacanthus Willdenovianus* Nees, in DC. Prodr. 11: 207). (No. 2055.)

Ruellia (*Stemonacanthus*) Pearcei sp. nov.

Minutely grayish-puberulent; stems slender, rigid, erect-branched, quadrangular, striate; petioles 1-1.5 cm. long, channeled above, abruptly somewhat dilated at the base; blades 0.7-1 dm. long, 2-3 cm. broad, lanceolate, the base acuminate and gradually narrowed into the petiole, long-acuminate and acute at the apex; calyx-tube 2 mm. long, campanulate, the lobes 0.7-1 cm. long, linear-attenuate, 1-nerved; corolla scarlet, 5 cm. long, the tube lightly curved, infundibular, lightly ventricose above, the lobes about 7 mm. long, broad, emarginate; capsule strongly clavate, 1.5-2 cm. long, glabrous.

Vic. Cochabamba, 1891. (No. 2056.) The same collected in Bolivia by Pearce.

APHELANDRA ACUTIFOLIA Nees, in DC. Prodr. 11: 299. (No. 2054, p.p.)

SANCHESIA PERUVIANA (Nees) Rusby, Mem. Torrey Club 6: 102.

(No. 2367.). "About 5 feet high, growing in wet shaded sand, near the river, the flowers rose-colored; scarce." Coroico, August 2, 1894.

BELOPERONE NUDA Rusby, Mem. Torrey Club 6: 103. (No.

2303.) "A small shrub in wet shaded mould, the flowers yellow; not plentiful."

Chaetochlamys Lindavii sp. nov.

Grayish-puberulent; stems slender, strict, green, obtusely quadrangular; petioles (only the upper seen) 3-5 mm. long, broad; blades 1-1.5 dm. long, 2.5-7 cm. broad, ovate, mostly inequilateral, the base abruptly produced into the petiole, acuminate and

acute at the apex, entire, very thin, pale-green, the midrib and about 4 pairs of strongly ascending slender secondaries lightly prominent both sides; bracts 2-3 cm. long, linear-oblong, acuminate, strongly 1-nerved; bractlets 3, united at the base, 2 cm. long, linear-attenuate; calyx parted to the base, the segments 1.5 cm. long, lanceolate, acuminate, 2.5 mm. broad; corolla-tube 4 cm. long, infundibular, lightly recurved; lower lip 2.5 cm. long, the lobes 1 cm. long; upper lip slightly shorter; stamens shorter than the corolla, the filaments thickish; anthers 7 mm. long, the thecae overlapping, the lower conspicuously spurred; style a little longer than the stamens, thickish, the stigma obscurely 2-lobed. (*No.* 2546.)

JUSTICIA RUSBYANA Lindau, Mem. Torrey Club 4: 243. (*No.* 2544.) The same as *no.* 379.

Justicia (*Vasica*) ***robusta*** sp. nov.

Softly pubescent, the principal veins long-pilose, the upper leaf-surfaces densely strigose; branchlets short, stout, sub-erect; petioles 5 mm. long, stout, pilose; blades 0.7-1.5 dm. long, 2.5-5 cm. broad, ovate, abruptly contracted to a very short point at the base, at the apex abruptly contracted into a long attenuate acumination, entire, thickish, yellowish-brown underneath, where the midrib and 10-12 pairs of very slender secondaries are lightly prominent; panicles terminal, small, dense, subsessile; bracts 3 mm. long, linear-attenuate, strongly gray-pilose; calyx 7 mm. long, parted nearly to the base, the lobes linear-attenuate, green, strongly gray-pilose; corolla-tube 5 mm. long and broad, contracted at the summit, an intruded large fold near the lobes, strongly 3-ribbed, the ribs connected by prominent nearly straight veins; lobes nearly 1.5 cm. long, the lower 3-lobed, nearly 1 cm. broad at the summit, the lobes sub-semicircular; upper lip scarcely toothed, the apex incurved; stamens nearly equaling the corolla, the anthers 3-4 mm. long, flattened, one cell appendaged with a slender, white, curved appendage; style exceeding the stamens, recurved at the summit; fruit not seen. (*No.* 2404.)

Mr. Bang says "A climber, 30 ft. high, with yellow flowers in wet forest-mould; scarce. Coroico, Sept. 2, 1894." There must be some mistake in the plant, as it does not appear to be a climber, and its flowers are of some red color.

Justicia (*Dianthera*) ***subintegrifolia*** sp. nov.

Glabrous; branches slender, weak and somewhat reflexed, coarsely sulcate; leaves tapering into a short channeled petiole, 0.7-1.5 dm. long, 3-4.5 cm. broad, ovate, acuminate and acute at both ends, obsoletely serrate, thin, pale-green, the midrib narrowly channeled above, prominent underneath, like the 5 or 6 irregular

pairs of very slender secondaries; spikes terminal, sessile, more or less deflexed, 3-6 cm. long; bracts 2 or 3 mm. long, ovate, acuminate; calyx 5-6 mm. long, divided nearly to the base, the lobes lanceolate, acuminate, strongly 1-ribbed; corolla nearly 1.5 cm. long, apparently yellowish, the lips about two fifths of its length, the lobes of the lower lip round-ovate, 2 mm. long, the upper lip entire; stamens 1 mm. shorter than the upper lip, the oblong anther 1.5 mm. long, the thecae slightly overlapping, without appendages; style about as long as the stamens, straight, rather stout, flattened; capsule lance-oblong, about 1 cm. long; seed 3 mm. long, 2 mm. broad, oval, compressed, obtusely 8-10-ribbed, the ribs verrucose. (*No.* 2545.)

VERBENACEAE

LANTANA TRIFOLIA L. Sp. Pl. 626. (*No.* 2044.)

LANTANA VELUTINA Mart. & Gal. Bull. Acad. Brux. 1: 325.
(*Nos.* 2049 and 2532.)

LANTANA LILACINA Desf. Cat. Hort. Par. ed. 3. 392. (*No.* 2533.)

LANTANA NIVEA Vent. Jard. Malmais. 8. *pl.* 8. (*No.* 2034, as to the specimens without glandular indumentum.) I think *Morong* 344, published as *L. Camara*, is the same.

***Lantana foetida* sp. nov.**

Heavily glandular-hairy, the hairs spreading; branches widely spreading, sharply quadrangular; petioles 0.5-1.5 cm. long, stout, narrowly margined; blades 0.4-1 dm. long, 3-7 cm. broad, ovate, very abruptly contracted into a short point at the base, or truncate or lightly cordate, very short-pointed and acute or obtusish at the apex, closely dentate, the teeth mostly obtuse, above dark-green, rugose with strongly impressed veins, underneath pale-green with the yellowish veins rather prominent, the secondaries slender, connected by the tertiaries; peduncles 0.4-1 dm. long, stout, widely spreading, finely striate; heads in flower 1.5 cm. broad, in fruit 2-2.5 cm. broad; bracts 2-4 mm. long, ovate, acute; calyx 2 mm. long, 1.5 mm. broad, cupulate-campanulate, truncate; corolla pubescent, 1 cm. long, the tube lightly sigmoid-curved, strongly ventricose about the middle, where it is 2 mm. broad; lobes spreading, 1.5 mm. long, the broadest nearly 3 mm. broad; longest stamens reaching to about the middle of the corolla-tube, the anthers nearly 1 mm. long; fruit 7 mm. long, 5 mm. broad, ovoid, rounded at the apex, black, shining. (*No.* 2034, as to the specimens with glandular pubescence.)

***Lantana hypoides* sp. nov.**

Short-tomentose; root stout, woody, coarsely branched; stems ascending, 6-8 dm. long in my specimens, sparsely erect-branched,

obtusely quadrangular, the internodes 3-5 cm. long; petioles about 5 mm. long, very stout; blades 2-3 cm. long, 1.5-2 cm. broad, ovate, sub-cordate at the base, rounded at the summit, strongly serrate with obtusish teeth, thick, the venation impressed above, somewhat prominent but concealed by the indumentum underneath; peduncles 3-5 cm. long, costate; heads 1-1.5 cm. broad; calyx-tube narrowly campanulate, 2 mm. long, the lobes of about equal length, narrowly spatulate, bright-purple toward the summit; corolla densely villous, the tube 3 mm. long, cylindraceous-infundibular, the longer lip 2 mm., the shorter 1 mm. long. (No. 2541.)

LIPPIA URTICOIDES (Cham.) Steud. Nom. ed. 2. 2: 54. (*Aloysia urticoides* Cham. Linnaea 7: 238. 1832.) "A slender shrub, 10-15 ft. high, in waste ground, the flowers white." Coripata, April 27, 1894. (No. 2165.)

LIPPIA BOLIVIANA Rusby, Mem. Torrey Club 4: 243. (No. 2531.) The same as no. 979.

BOUCHEA PSEUDO-GERVAO (A. St. Hil.) Cham. Linnaea 7: 253. 1832. (*Verbena pseudo-gervao* A. St. Hil. Pl. Us. Bras. pl. 40.) (No. 2001.)

Bouchea incisa sp. nov.

Younger portions and the veins underneath minutely puberulent; stems stout, erect, erect-branched, terete, blackish, finely striate; petioles 0.5-1 cm. long, margined, dilated at the insertion; blades 0.5-1 dm. long, 2-4 cm. broad, ovate, at the base abruptly contracted and then tapering into the petiole, at the summit abruptly acuminate, and then tapering to an acute point, the upper half incisely serrate, thin but somewhat rigid, bright-green above, pale underneath; peduncles 3-5 cm. long, rather stout, the rachis 1-1.5 dm. long; bracts about 5 mm. long, linear-attenuate; flowers very shortly and stoutly pedicelled; calyx 1.5 cm. long, 3 mm. broad, cylindraceous, strongly angled, strongly recurved in flower, erect in fruit, the subulate, very acute teeth 2.5 mm. long and erect; corolla-tube nearly 2 cm. long, strongly recurved, the limb broad, strongly ringent; fruit 1.5 cm. long, lance-oblong, the calyx exceeding it in a twisted form. (No. 2226.)

VALERIANODES CAYENNENSE (Vahl) Kuntze, Rev. Gen. Pl. 510. (*Stachytarpheta cayennensis* Vahl, Enum. 1: 208.)

CITHAREXYLUM ILICIFOLIUM H.B.K. Nov. Gen. 2: 256. (No. 1917.)

? DURANTA PLUMIERI Jacq. Select. Am. 186. (No. 1798.)
The same form collected by Pearce.

DURANTA LORENTZII Griseb. Goett. Abh. 24: 280. 1879. "A small tree, growing in rocky, wet places." Coripata, April 29, 1894. (No. 2172.)

Duranta Pearcei sp. nov.

A shrub with slender ascending branchlets; branchlets, inflorescence and lower leaf-surfaces ferruginous-velvety, the upper leaf-surfaces sparsely puberulent; internodes about 12 mm. long; petioles 3-4 mm. long, stout; blades 4-6 cm. long, 2-3 cm. wide, oblong-ovate, rounded or lightly cordate at the base, acute, entire, thick, the principal secondaries about 8-10 on each side, connecting near the margin, the stout midrib and venation lightly prominent underneath; panicles terminal, pyramidal; flowers not seen; fruiting peduncles 2 mm. long, very slender, somewhat thickened upward; calyx persistent after the fall of the fruit as a thick, circular, black, disk-like body 0.5 mm. broad, the lobes obscure, semi-circular; fruit 12 mm. long, 4-5 mm. broad, pyriform with slenderly tapering base and rounded summit, minutely ferruginous.

"About 3 m. high, in dry gravelly soil." Near Coroico, Yungas. (*No.* 2406, but distributed as 2806.) Also collected by *Pearce* at Callican, 8,000 to 9,000 ft.

LABIATAE

OCIMUM MICRANTHUM Willd. Enum. Hort. Berol. 630. (*No.* 2542.)

MESOSPHAERUM BREVIPES (Poit.) Kuntze, Rev. Gen. Pl. 525. (*Hyptis brevipes* Poit. Ann. Mus. Par. 7: 465. 1806. (*No.* 2612.)

Mesospaerum pallidum sp. nov.

Finely strigose; branches slender, erect, elongated, reddish-gray, obtusely quadrangular and striate, the internodes 5-8 cm. long; petioles 0.5-1 cm. long, consisting of the narrowed leaf-base; blades 4-8 cm. long, 1-3 cm. broad, obovate, rather abruptly contracted into the narrow base, obtusish to blunt at the apex, coarsely serrate with obtusish teeth, pale-green, thick, the venation lightly prominent above, more so underneath, the secondaries about 7 pairs, strongly incurved, connecting near the margin; peduncles 2-3 mm. long, stout; heads spherical, nearly 1 cm. broad; outer bracts 3 mm. long, 1.5 mm. broad, ovate, blunt, long-pilose; calyx pilose, 1.5 mm. long, lobed about half-way, the tube turbinate, dark, the pale-green lobes lance-oblong, obtuse, the apices lightly inflexed; corolla-tube 2 mm. long, lightly sigmoid-curved, the oblique mouth nearly 2 mm. broad; two lobes of the upper lip about twice as large as the lateral, which are connected with the lower to form the anterior lip; lower lobe twice the length of the others, narrow, substipitate, containing the rather large anthers; nutlets nearly 1 mm. long, obovoid, the apex rounded, deep-brown, minutely rugose, slightly shining.

"In muddy places where water is running. Plant about 4 ft. high, the flowers greenish-white." Calapampa, July 9, 1894. (No. 2330.)

Species peculiar for the short, blunt, green calyx-lobes. In this respect it is like *M. membranaceum* (Benth.) Kuntze. The corolla is exactly that of *Eriope*, but in all other respects the characters are distinct therefrom.

BYSTROPOGON CANUS Benth. Lab. 326. (No. 2043.)

MICROMERIA BOLIVIANA Benth. Lab. 731. (Specimen without number.)

ALGUELAGUM TENUIFLORUM (Benth.) Kuntze, Rev. Gen. Pl. 512. (No. 1835.) The same as no. 167.

Alguelagum lancifolium sp. nov.

Branchlets obtusely quadrangular, purplish, the younger portions, like the petioles, peduncles, etc., more or less scurfy; petioles 1-1.5 cm. long, stout, channeled above, 5-striate underneath; blades 0.8-1.2 dm. long, 2.5-4 cm. broad, lanceolate, rounded or blunt at the base, acutish at the apex, finely and obtusely or crenately dentate, thickish, bright-green, strongly rugose and lightly scabrous, minutely golden-dotted, the midrib and 15-20 pairs of secondaries impressed above, very prominent underneath, the latter connecting close to the margin; panicles widely variable in size, leafy-bracted; flowers mostly short-pedicelled; calyx-tube campanulate, in flower 5 mm. long, 4 mm. broad, the lobes somewhat longer, attenuate and pungent; corolla about 1 cm. long. (No. 1823.)

Apparently the same species was collected by Triana in New Grenada. Species very near *A. salviifolium* Rusby.

SALVIA BANGII Rusby, Mem. Torrey Club 4: 246. (No. 2543.)

The same as no. 980.

? SALVIA CARDIOPHYLLA Benth, Lab. 721. (No. 2032.) Flowers are required for a positive determination. The same as *Holton* 478.

? SALVIA BRIDGESII Britton, Bull. Torrey Club 27: 124. Vic. Cochabamba, 1891. (No. 2033.) In these specimens the ovate, thin leaves reach a length of 1.25 dm. and a breadth of 3.5 cm. The calyx is 1-1.5 cm. long, and the corolla 3.5 cm. long and very stout.

PLANTAGINACEAE

PLANTAGO PSYLLIUM L. Sp. Pl. 115. (No. 1965.)

NYCTAGINACEAE

BOUGAINVILLEA MODESTA Heimerl, Denks. Math.-Nat. Akad. Wiss. Wien 70: 118. 1900. (No. 2398.) "A very stout tree, 80 ft. high, scarce in slaty soil near river, the flowers dark green-brown." Near Coroico, August 24, 1894.

COLIGNONIA GLOMERATA BOLIVIANA Heimerl, Denks. Math.-Nat. Akad. Wiss. Wien 70: 136. 1900. (No. 1772.)

PISONIA HIRTELLA H.B.K. Nov. Gen. 2: 217. (No. 1809.)

Neea Bangii sp. nov.

Branches gray, strongly wrinkled in drying; younger portions and lower leaf-surfaces minutely puberulent, the upper leaf-surfaces slightly shining; branches stoutish, striate; petioles 3-8 mm. long, stout and broad; blades 0.5-1.5 dm. long, 2.5-5 cm. broad, obovate, mostly acute at the base, abruptly acuminate and obtusish at the apex, entire, the venation very slender, inconspicuous both sides, the secondaries very irregular, communicating near the margin; pistillate flowers only seen; peduncles 3-5 cm. long, very slender, recurved or pendulous, thickening in fruit; panicles 2-4 cm. broad, loosely-flowered, the bracts triangular-subulate, about 1 mm. long; flowers yellowish, the tube campanulate, the mouth open, 2.5 mm. long, the lobes 1.5 mm. long, recurved; pistil lightly exerted, the stigma penicillate; fruit black, nearly 1.5 cm. long, half as broad, oval, tipped by the short, persistent perianth-limb.

"A tree 15 to 20 ft. high, with yellow flowers, scarce in rich, wet forest-mould." At the foot of Mt. Uchimachi, Calapampa, July 17, 1894. (No. 2346.) Closely resembling *N. longipedunculata* Britton, but the flowers entirely unlike.

ILLECEBRACEAE

PARONYCHIA CHILENSIS DC. Prodr. 3: 370. (No. 1970.)

AMARANTACEAE

HEBANTHE HOLOSERICEA Mart. Flora 21: Beibl. 65. (No. 2264.)

IREFINE CELOSIODES L. Sp. Pl. 1456. (No. 2355.)

IREFINE PANICULATA (L.) Kuntze, Rev. Gen. Pl. 542. (No. 2469.)

CHAMISSOA ALTISSIMA (Swartz) Kunth; H.B.K. Nov. Gen. 2: 197. pl. 125. (No. 2263.)

ALTERNANTHERA PHILOXEROIDES Griseb. Goett. Abhand. 24: 36. (No. 2359.)

CHENOPODIACEAE

CHENOPODIUM BOLIVIANUM Murr, Magyar Bot. Lap. 1: 359.
1902. (No. 2897.)

PHYTOLACCACEAE

RIVINA LAEVIS L. Mant. 1: 41. "A shrub, 4 to 5 ft. high, growing in dry gravelly soil; the flowers white, the fruit bright-red; scarce." Coripata, March 10, 1894. (No. 2083.)

Villamilla rivinioides sp. nov.

Finely tomentellate; branches slender, weak, ascending, densely leafy; stipules attenuate, 3-5 mm. long; petioles 1-3 cm. long, striate, weak; blades 0.7-1.5 dm. long, 3-5 cm. broad, ovate, obtuse at the base, acuminate and acute at the apex, entire, very thin, the narrowly margined midrib and 8-10 pairs of strongly upcurved secondaries whitish and lightly prominent underneath; peduncles 4-6 cm. long, flower-bearing portion 1.5 dm. or more long, strongly striate, densely flowered, the raceme about 1.5 cm. broad; bracts setiform, 1 mm. long; pedicels 3-5 mm. long, very slender, spreading; sepals 3 mm. long, nearly 2 mm. broad, elliptical, hyaline, strongly 3-ribbed, the midrib enlarged toward the summit into a reddish keel; filaments 2 mm. long, white, slender; anthers 1.5 mm. long, 0.5 mm. broad, the thecae separated except at the middle; ovary 1.5 mm. long, 1 mm. broad, strongly flattened and narrowly margined. (No. 2607.)

MOHLANA SECUNDA (R. & P.) Mart. Nov. Gen. 3: 172
(*Rivina secunda* R. & P. Fl. Per. 1: 65. pl. 102, f. a. (No. 2550.)

PHYTOLACCA OCTANDRA L. Sp. Pl. ed. 2. 631. (Nos. 2548 and 2549.)

POLYGONACEAE

POLYGONUM ACUMINATUM H.B.K. Nov. Gen. 2: 178. "A foot or two high in rich, wet ground, the flowers greenish-white. Used as a remedy for wounds, by local application." Coripata, March 28, 1894. (No. 2109.)

POLYGONUM PERSICARIOIDES H.B.K. Nov. Gen. 2: 179. "Abundant in very wet soil, where water is standing or running, flowers light-red." Coripata, February 24, 1894. (Nos. 2061 and 2552.)

POLYGONUM ANOMALUM Small, Bull. Torrey Club 24: 46. pl. 293.
1897. (No. 1970a.)

SARCOGONUM VULCANICUM (Endl.) Rusby, Mem. Torrey Club 4: 252. (No. 2036.)

ARISTOLOCHIACEAE

Aristolochia yungasensis sp. nov.

Finely tomentellate except the glabrous upper leaf-surfaces; root elongated, sparingly branched, fleshy and tuberous-thickened; twining stems stoutish, costate; petioles 2-3 cm. long, slenderly costate; blades 0.6-1 dm. long from the summit of the petiole, 4-8 cm. broad, ovate, strongly cordate, the summit of the sinus as well as the lobes regularly rounded, regularly acuminate and obtusish at the summit, entire, rather thin, strongly 3-ribbed or 5- to 7-ribbed by one or two pairs deflected into the basal lobes, coarsely and slenderly reticulate, the principal veins lightly prominent underneath; pedicels about 3 cm. long in flower, thickened upward, strongly costate; basal sac of perianth 1.5 cm. long, 1 cm. broad; the narrow, lightly curved portion of tube 1.5 cm. long, 0.5 cm. broad, costate, dilated suddenly into a broadly campanulate deep-purple body about 1 cm. long; greenish lip nearly 2 cm. long and broad, rounded, the base glabrous and strongly seven-nerved, the nerves purple, a purple crescent separating the body of the lip which is coarsely purple-papillose and ciliate.

“ Abundant in coca-plantations, climbing a few feet and flowering sparsely, the flower brown and black; called ‘Vejugo,’ the leaves and root used for snake-bite.” Coripata, May 18, 1894. (No. 2199.) Species related to *A. rumicifolia*.

PIPERACEAE

(For species not here enumerated see Bull. Torrey Club 25: 566. 1898.)

PIPER LANCEOLATUM R. & P. Fl. Per. 1: 36. “ A shrub 6-10 ft. high, in forest-mould; scarce.” Coroico, September, 1894. (No. 2431.)

PIPER PAVONII (Miq.) C. DC. Prodr. 16¹: 294. (No. 2642.) (*Artanthe Pavonii* Miq. Lond. Jour. Bot. 4: 450. 1845.)

PIPER PSILOPHYLLUM C. DC. Bull. Torrey Club 19: 47. 1892. (No. 2900.)

PIPER SUBFUSCUM C. DC. Jour. Bot. 4: 217. 1866. “ A shrub 6-8 ft. high, growing in wet forest-mould; scarce.” Coroico, September, 1894. (No. 2475.)

PIPER TRIGONIASTRIFOLIUM C. DC. Bull. Torrey Club 25: 567. (No. 2917.)

PEPEROMIA BLANDA H.B.K. Nov. Gen. 1: 67. (No. 1819.)

PEPEROMIA MULTISPICA C. DC. Bull. Torrey Club 25: 571. (No. 2039.)

- PEPEROMIA BOLIVIENSIS C. DC. Prodr. 16¹: 453. "Grows on old trunks in forests, the leaves very fleshy, requiring a long time to dry." Coripata, June 10, 1894. (No. 2324.)
- PEPEROMIA COBANA C. DC.; J. D. Smith, Bot. Gaz. 19: 260. 1894. (Specimen without number.)
- PEPEROMIA GALIOIDES H.B.K. Nov. Gen. 1: 71. *pl.* 17. (No. 2643.)
- PEPEROMIA HISPIDULA (Swartz) A. Dietr. Sp. Pl. 1: 165. (No. 1796, *a.*)
- PEPEROMIA LARECAJANA C. DC. Prodr. 16¹: 406. (No. 2898.)
- PEPEROMIA MANDONII C. DC. Prodr. 16¹: 395. (No. 1719.)
- PEPEROMIA MELANOSTIGMA Miq. Syst. 90. "Grows in wet forest-mould." Coroico, September, 1894. (No. 2451.)
- PEPEROMIA PARVIFOLIA C. DC. Jour. Bot. 4: 133. 1866. (No. 1860.)
- PEPEROMIA REFLEXA A. Dietr. Sp. Pl. 1: 180. (No. 2644.)
- ?PEPEROMIA SAXICOLA C. DC. Bull. Torrey Club 25: 571. 1898. (No. 2899.)
- PEPEROMIA UMBILICATA R. & P. Fl. Per. 1: 30. *pl.* 45, *f.* *b.* "Grows on old trees, the flowers white; scarce." Coroico, September, 1894. (No. 2448.)
- PEPEROMIA TRINERVIS R. & P. Fl. Per. 1: 32. *pl.* 50, *f.* *b.* "Grows in wet forest-mould, the flowers green." Coroico, September, 1894. (Nos. 2455, 2638 and (?) 2450.)

CHLORANTHACEAE

- TAFALLAEA GLABRATA (H.B.K.) Rusby, Mem. Torrey Club 4: 252. "A tree 20-30 ft. high, growing in wet forests, the flowers yellowish-white. Differs from 388 only in having but two flowers together. Scarce." Coripata, May 7, 1894. (No. 2178.)

MONIMIACEAE

- MOLLINEDIA RUSBYANA Perkins, Bot. Jahrb. 27: 682. "A slender shrub, 5-6 ft. high, growing in shade, in forest-mould, the flowers green; scarce." Coripata, September 13, 1894. (No. 2430.)
- MOLLINEDIA CALONEURA Perkins, Bot. Jahrb. 27: 663. (No. 1976.)
- MOLLINEDIA sp. apparently undescribed, related to *M. Schottiana* (Spreng.) Perkins. "A shrub about 6 ft. high, growing in wet

forest-mould, the flowers green." Coroico, September, 1894. (No. 2460.)

SIPARUNA CHRYSANTHA Perkins, Bot. Jahrb. 31: 746. "Shrubby and half-climbing to 10 or 12 ft., growing in shade, in forest-mould; strongly odorous." Coroico, July 25, 1894. (No. 2363.)

PROTEACEAE

Panopsis Pearcei sp. nov.

Inflorescence minutely puberulent; petioles 1-1.5 cm. long, very stout; blades 0.6-1.2 dm. long, 3.5-5 cm. broad, oval, entire, obscurely cuspidate, very thick, the secondaries 8-10 pairs, connecting close to the margin, the venation very prominent on both sides, reticulate, most of the meshes containing a free branch which terminates in a pair of recurved branches; panicles terminal, sessile or short-peduncled, the branches sharply striate, blackish with whitish warts; pedicels 3-4 mm. long, elongating in fruit, terete, thickened upward; perianth 4 mm. long, the divisions linear; ovary 1 mm. long, pilose; style 2.25 mm. long, stout, cylindrical or slightly clavate; stamens inserted near the base, equaling the style, the anthers nearly 1 mm. long, penicillate. (No. 2237.)

The same collected by *Pearce* at Moro, 4,500 ft., January, 1866.

LAURACEAE

? *ANIBA AMAZONICA* (Meissn.) Mez, Jahrb. Berlin 5: 69. 1889. (*Aydendron amazonicum* Meissn.; DC. Prodr. 15¹: 89.) (No. 2556.)

PERSEA sp. (No. 2902.)

? *OCOTEA ALBIDA* Mez & Rusby, Mem. Torrey Club 16: 114. (No. 2214.)

? *OCOTEA RETICULATA* Mez, Jahrb. Berlin 5: 308. 1889. "A tree 20 ft. high or more, growing in wet forest-mould, the flowers white; scarce." Coripata, much higher than the town, May, 1894. (No. 2187.)

Ocotea prunifolia sp. nov.

Finely and lightly canescent, the leaf-surfaces very sparingly so; branchlets numerous, short, flexuous, coarsely angled, blackish, leafy; petioles 1-1.5 cm. long, flat, stoutish; blades 0.75-1.5 dm. long, 2.5-4.5 cm. broad, lance-ovate, somewhat inequilateral, the base blunt but abruptly a little produced, obtusish at the apex, entire, thick and coriaceous, shining above, the venation slightly prominent above, more so underneath, the strongly ascending secondaries about 10 pairs, the venation finely and strongly reticulate;

panicles axillary and terminal, loose, 1-1.5 dm. long, including the strong peduncles, two thirds as broad, the rachis and branches flexuous, the flowers densely clustered upon the branchlets, the lanceolate, obtuse, coriaceous bracts 5 mm. or less long. Only staminate flowers seen, the plant apparently dioecious. Perianth puberulent, especially the tube, which is 1 mm. long, turbinate; lobes 2 mm. long, nearly as broad, oval, rounded at the apex, coriaceous; filaments puberulent, nearly 1 mm. long, uniform or those of the third series slightly narrower; anthers nearly 1 mm. long, the outermost triangular-ovoid, rounded at the summit, twice as broad or more than the filament, the innermost lance-oblong, scarcely broader than the filament; glands half the length of the filament, broader than long, thick and fleshy, sessile, each broadly grooved upon its inner face; fourth stamen-series not present; rudimentary pistil 2 mm. long, the very small ovary white-pilose, the style thick, the blackish stigma 3-lobed, twice or thrice as broad as the style.

"A stout tree, 20 to 30 ft. high, with yellow flowers, growing in wet mould; scarce." Coripata, April 24, 1894. (*No.* 2144.)

NECTRANDA LAEVIS Mez, *l. c.* 451. (Specimen without number, probably distributed as part of 1646.)

NECTANDRA BERCHEMIFOLIA Meissn.; DC. Prodr. 15¹: 154. (*Nos.* 2558 and 2901.)

NECTANDRA CITRIFOLIA Mez & Rusby, Mem. Torrey Club 6: 115, var.? "A tree 40-50 ft. high, in forest." Coripata, April 18, 1894. (*No.* 2133.)

NECTANDRA LAUREL Klotzsch; Nees, *Linnaea* 21: 505. 1848. (*No.* 2187.) The same as *Matthews*, collected in Peru.

?*NECTANDRA WARMINGII* Meissn.; Warm. Vid. Medd. 1870: 141. (*No.* 2214.) The presence of this species so far from the type locality is surprising, but it appears to agree with Warming's *no.* 718.

LORANTHACEAE

Struthanthus oblongifolius sp. nov.

Glabrous except the minutely puberulent flowers; branches straight, rigid, terete, dark-brown; leaves tapering into a short petiole-like base, 0.7-1.5 dm. long, 2-8 cm. broad, oblong or oval, varying to ovate or obovate, abruptly narrowed at the base, rounded at the summit, the venation, including the midrib, obscure on both sides; calyx 5 mm. long, the lower portion depressed-globose, a little longer than the cupulate upper portion which is 3 mm. broad, as pressed, the erect margin shortly toothed; corolla 1 dm. long, the lower half 2 mm., the upper 3.5 mm. broad, the oblong lobes erect; anthers about 7 mm. long, linear-oblong, the upper set

reaching nearly to the tip of the corolla, the lower reaching to the base of the upper; stigma capitate, oblong, 1 mm. long, slightly exceeding the anthers. (No. 2555.)

PHORADENDRON CORIACEUM Eichl. in Mart. Fl. Bras. 5²: 121. (No. 2903.)

PHORADENDRON MESEMBRYANTHEMIFOLIUM Griseb.; Rusby, Bull. Torrey Club 27: 136. 1900. (Nos. 1926 and 2035.)

PHORADENDRON SUBTRINERVE Rusby, Mem. Torrey Club 6: 117. (No. 2553.)

PHORADENDRON PEARCEI Rusby, Bull. Torrey Club 27: 136. 1900. (Specimen without number.)

Phoradendron tafallaeoides sp. nov.

Glabrous except the sparsely pilose bases of the peduncles; branches stout, the internodes about 2.5 cm. long; petioles nearly 1 cm. long, broad, thinly margined, articulated to a shallow base which projects sharply on the lower side; blades 5-7 cm. long, 3-4 cm. broad, oval or slightly broader below, abruptly very short-pointed at both ends, thick, the venation prominent both sides, especially above, the secondaries very slender, crooked, irregular and irregularly branched; peduncles 1-1.5 cm. long, stout, coarsely angled, the spikes 2-4 cm. long, very loosely flowered; pedicels 2 mm. long and about as broad; calyx 3.5 mm. broad, crateriform, shallowly lobed; berry oval, rounded at the apex, 7 mm. long, 5 mm. broad; flower not seen. (No. 2554.)

ANTIDAPHNE VISCOIDEA Poepp, et Endl. Nov. Gen. et Sp. 2: 70. pl. 199. (No. 2257.) Distributed as "*Stylloceras* sp. nov.?"

SANTALACEAE

QUINCHAMALIUM MAJUS Brongn. Voy. Coq. pl. 51, f. a. (No. 1944.)

EUPHORBACEAE

EUPHORBIA GENICULATA Orteg. Hort. Matr. Dec. 18. (No. 2208.)

EUPHORBIA HYPERICIFOLIA L. Sp. Pl. 454. (No. 2905.) Not the same form as no. 2, etc.

EUPHORBIA ORBICULATA H.B.K. Nov. Gen. 2: 52. (No. 2273.) The same as *Triana's* Bogota specimen, no. 354 (or 3541?).

Euphorbia (*Tithymalus*) *boerhaavioides* sp. nov.

Glabrous; root tuberous; stems 0.75-1.5 dm. long, widely branched, the branches slender, flexuous, purplish, the internodes 1-2 cm. long; stipular glands inconspicuous; lower leaves alter-

nate, small, the upper opposite, 1-2 cm. long, 6-9 mm. broad, ovate-oblong, sessile, blunt, entire, bright-green, thick, obscurely 3-nerved with numerous fine, erect veins; peduncles 4-5 mm. long, solitary in the axils, erect, stoutish for the size of the involucre, which (the pistillate) is 2 mm. long and broad, campanulate, thick, deep-purple, the 5 glands broad, thick, strongly recurved, unappendaged; ovary 1.5 mm. long, ovoid, obtuse, obtusely 3-angled, the styles 1.5-2 mm. long, strongly recurved, 2-cleft about half-way, thickish, purple; perianth-segments white, linear, one at each angle of the ovary and about half its length; involucre of the staminate flowers similar, its segments white, mostly purple-tipped, as long as the glands, lacerate at the broad summit, narrowed downward; rudimentary pistil present; interstaminate bracts thickish, flat, purple-tipped, longer than the stamens. (No. 2504.)

Species obviously related to *E. Ipecacuanha*, but peculiar in its solitary axillary involucre.

Euphorbia boliviana sp. nov.

Sparsely pilose with long hairs and grayish-puberulent with intermediate short ones; stems prostrate, about 1 dm. long in my specimen, profusely branched, stoutish for the size of the plant, deep-purple-red, terete; stipular-glands broadly ovoid, short-pointed, purple; leaves opposite, nearly sessile, 4-8 cm. long, 2.5-5 mm. broad, ovate, inequilateral, especially at the truncate or lightly cordate base, blunt, irregularly and rather obscurely serrate-dentate, thickish, mostly purple; pedicels about 1 mm. long, thick; involucre 1 mm. long, narrowly campanulate, the segments narrow, pointed, the white or purplish glands shortly 2-horned. (No. 2907.)

The same as *Mandon 1064* and *Mathews 502*. Species apparently related to *E. thymifolia*.

Euphorbia longipila sp. nov.

Long and softly purplish-white pilose throughout; stem herbaceous from a stout perennial root, ascending, much-branched, the branches erect, elongated, slender, terete; stipular glands not apparent; leaves all alternate; petioles 0.5-1 cm. long, slender, divergent or deflexed; blades exceedingly variable in size, from 0.72-cm. long, 0.4-1.5 cm. broad, oval or mostly sub-rotund, varying to ovate, rounded, truncate or slightly produced at the base, rounded at the summit, very thin, pale, the midrib and 4 pairs of secondaries not prominent, broad and coarse; involucre cymose-fascicled at the ends of the branchlets; pedicels very short; involucre green with a white border, or some purple, campanulate, 1 mm. long and broad, the segments very small, greenish, the glands much larger, yellow, bearing 3 linear teeth as long as themselves; pistil less than 1 mm. long, the globose ovary about as long as the yellow styles, which are parted to the base. (Specimen without number.)

Phyllanthus brasiliensis (Aubl.). (*Conami brasiliensis* Aubl.

Pl. Gui. 2: 927. *pl.* 324. — *Phyllanthus Conami* Swartz, Prodr. Veg. Ind. Occ. 288.) "A shrub, 10–12 ft. high, growing in gravelly, rather wet soil near the river, the flowers green; scarce." Coripata, March 14, 1894. (*No.* 2086.)

PHYLLANTHUS LATHYROIDES H.B.K. Nov. Gen. 2: 110. (*No.* 1778.)

CROTON ANDINUS Muell.-Arg. Linnaea 34: 126. 1865. (*Nos.* 1927 and 1929.) The same as *Mandon* 1075.

CROTON GLANDULOSUS L. Syst. ed. 10. 1275. "Grows 1 to 2 ft. high in ordinary soil, the flowers greenish-white." Coripata, March 28, 1894. (*No.* 2106.)

CROTON LOBATUS L. Sp. Pl. 1005. "In dry clay, on hillsides; scarce." Coripata, April 18, 1894. (*No.* 2130.)

CROTON SELLOWII Baill. Adansonia 4: 304. 1864. (*No.* 2657.)

ACALYPHA LECILERI Britton: Rusby, Bull. Torrey Club 28: 304. 1901. (*No.* 2610.) The same as *Rusby* 1420.

ACALYPHA HIBISCIFOLIA Britton; Rusby, Mem. Torrey Club 4: 257. (*No.* 2906.)

Acalypha eugenifolia sp. nov.

Rather densely pilose with soft, white, mostly reflexed hairs; a shrub, the branchlets rather numerous, short, very leafy; stipules purple, 2–3 mm. long, narrowly subulate or aristiform from a broad base, strongly 1-ribbed; petioles 0.5–4 cm. long, stoutish; blades 0.5–1.25 dm. long, 1.5–3 cm. broad, lanceolate, obtusish at the base, long-acuminate or attenuate at the apex, finely serrate, thin, rather pale, nearly smooth above, long-pilose underneath, where the slender venation is slightly prominent, the secondaries about 10 pairs, very strongly ascending; staminate spikes numerous, 3–6 cm. long, 2–3 mm. broad; pistillate spikes terminal, solitary, 0.5–1.5 dm. long, in flower 1 cm., in fruit 2 cm. broad; scales of the pistillate spikes mostly 5-cleft, the divisions lanceolate-attenuate, 4–5 times the length of the body, very strongly ribbed, pilose and ciliate; ovary globoidal, 3-lobed, green, densely white-pilose, 1 mm. long; styles 4–5 mm. long, bright-purple, long-pilose toward the base, the divisions filiform, tapering. (*No.* 2368.)

"A shrub about 8 ft. high, with red flowers, abundant in dry sand and gravel." Near Coroico, August 3, 1894.

Acalypha foliosa sp. nov.

Finely strigose; stems stout, coarsely angled; stipules 1.25 cm. long, 3 mm. broad at the base, from which they taper regularly to

an obtusish point; petioles 0.5-1.5 dm. long, slender but rigid, costate; blades 1-1.5 dm. long, 0.8-1 dm. broad, ovate, rounded or truncate to subcordate at the base, acute at the apex, finely serrate-dentate, the teeth acutish; texture thin, venation pale, prominent both sides, the secondaries slender, 10-15 pairs, connecting at the margin and connected by the tertiaries; spikes (immature) 3-4 mm. thick, 5 cm. long, cylindrical, loosely or densely flowered; flowers not yet expanded.

"A shrub 15-20 ft. high, with hollow stem and branches, the flowers greenish-yellow. Scarce in rich rocky ground near the river." Coroico, August 20, 1894. (*No.* 2391.)

***Acalypha lucida* sp. nov.**

Younger leaves minutely scurfy underneath, otherwise glabrous; branches erect and rigid, purple, coarsely sulcate and angled; stipules caducous, 0.5-1 cm. long, linear, attenuate; petioles 2-4 cm. long, slender, lightly channeled on the upper side, purple like the midrib; blades 1-1.5 dm. long, 3-5 cm. broad, angularly oblong, ovate, many inequilateral, the base blunt, rather abruptly narrowed and then tapering to an acute point, serrate with obtusish teeth, membranaceous, pale and shining underneath, the slender venation rather prominent both sides, the secondaries about 10 pairs, strongly ascending, apparently but not really connecting at the margin, the tertiaries meeting at their ends and by lateral branches about midway between the secondaries, very numerous, only 2-3 mm. apart; peduncles purple, stout, 2-3 mm. long, the (immature) spikes 0.4-1 dm. or more long, 3 mm. broad; flowers not yet expanded. (*Nos.* 2560 and 2561.)

ALCHORNEA TRIPLINERVIA (Spr.) Muell.-Arg. in DC. Prodr.

15²: 909. (*Antidesma triplinervium* Spr. Neue Entd. 2: 116.)

"A tree 15-20 ft. high, growing in dry clay." Coripata, March 3, 1894. (*Nos.* 2077 and 2279.)

CONCEVEIBA GUIANENSIS Aubl. Pl. Gui. 2: 924. *pl.* 353. (*No.* 2557.)

? *CONCEVEIBA PUBESCENS* Britton; Rusby, Bull. Torrey Club 28: 306. 1901. (*No.* 2375.)

TRAGIA SELLOWIANA GLABRIFOLIA Britton; Rusby, Bull. Torrey Club 28: 307. 1901. "In dry clay and gravel at Coripata." May 10, 1894. (*No.* 2182.)

TRAGIA VOLUBILIS L. Sp. Pl. 980. (*No.* 2904.) The same collected by *Holton* at La Paila.

***Tragia aurea* sp. nov.**

Densely ferruginous with spreading hairs; stems slender, terete, lightly striate; petioles about 5 mm. long, stout; blades 2.5-5 cm.

long, 0.7-2 cm. broad, ovate, lightly cordate, acuminate and acute, sharply and coarsely serrate, thickish but flaccid, green above, yellow underneath, the midrib and 8-10 pairs of secondaries scarcely prominent on either side; racemes very young and undeveloped; bracts 1 mm. long, lance-linear, acute; calyx campanulate, 1.5 mm. long, parted nearly to the base, the lobes lanceolate, obtusish; ovary 1 mm. broad, 0.5 mm. long, very deeply 3-lobed, the styles 1 mm. long, stout, erect-spreading, yellowish, puberulent, the stigmas terminal, small; staminate flowers not seen.

"A climber, 6 ft. high, in dry clay and gravel. Flowers green." Coroico, September, 1894. (*No.* 2454.)

Species at first thought identical with *Holton's* plant from New Grenada, but that has elongated racemes, much larger bracts and long-pedicelled flowers.

Tragia Bangii sp. nov.

Hispid-pilose throughout; root vertical, stout, strongly few-branched; stems erect or ascending, slender, sparingly branched, 2-3 dm. long; stipules 3-5 mm. long, ovate, obtuse, purple; petioles 1-1.5 cm. long, stout, strongly ascending; blades 1.5-4 cm. long, 0.75-2.5 cm. broad, ovate, cordate, acute, serrate-dentate, the teeth somewhat rounded but shortly and acutely pointed, thickish, pale-green, the venation rather coarse, lightly prominent, the secondaries 6-8 pairs; spikes solitary in the axils and lightly panicled at the summit, 2-3 cm. long, slender, incurved, rather densely flowered, the bracts similar to the stipules; calyx of the pistillate flower deeply parted, the lobes linear-oblong, 4 mm. long; capsule nearly 1 cm. broad, 5 mm. long, densely white-pilose; seed 4 mm. long, light yellowish-brown, veined.

"Small plant, a few inches high, the flowers yellowish-white; scarce on clayey hillsides." Coripata, Yungas, April 10, 1894. (*No.* 2125.)

DALECHAMPIA TRIPHYLLA Lam. Encyc. 2: 258. "A climber growing in wet mould by the roadside, the flowers green." Coripata, May 10, 1894. (*No.* 2181.)

DALECHAMPIA CANESCENS H.B.K. Nov. Gen. 2: 98. The same as *Holton* 845 and 846. "A climber, growing in dry, gravelly soil, the flowers greenish-white; scarce." Coripata, March 15, 1894. (*No.* 2091.)

URTICACEAE

CELTIS MORIFOLIA Planch. Ann. Sci. Nat. III. 10: 311. 1848. (*No.* 1902.)

TREMA MICRANTHA (L.) Blume, Mus. Bot. Lugd.-Bat. 2: 58.

(*Rhamnus micranthus* L. Syst. ed. 10. 937.) "A shrub 15 to 20 ft. high, in dry gravelly soil, the flowers green, the fruit black; scarce." Coripata, February 24, 1894. (Nos. 2065 and 2611.)

MORUS ALBA L. Sp. Pl. 986. (Specimen without number.) The same as *Heller 448* from Texas.

Ficus oblanceolata sp. nov.

Glabrous; branchlets stout but weak, rough with leaf-scars which are about 2 mm. broad; petioles 0.5–1.5 cm. long, dark-brown, very stout; blades 0.5–1 dm. long, 2.5–4 cm. broad, oblanceolate to obovate, obtuse at the base, abruptly very short-pointed and blunt at the summit, very pale, thick and coriaceous, the midrib plane above, very prominent underneath, the principal secondaries about 15 pairs, alternating with lesser ones, slender, nearly straight, at nearly right-angles with the midrib, connecting about 2 mm. from the margin; fruit sessile or very short-peduncled, globose, about 5 mm. broad, yellowish or brownish-green with darker spots.

"A tree 30 ft. or more high, scarce in sandy and gravelly soil, near the river." Coroico, August 2, 1894. (No. 2369.) *Pearce* collected what is probably the same species.

Cecropia elongata sp. nov.

Peduncles lightly, upper leaf-surfaces coarsely, scabrous; petioles (length unknown) sharply many-costate; leaves divided two thirds or three fourths of the way, the lobes oblanceolate, rounded or obscurely short-pointed at the summit, the middle lobe 3 dm. in length of midrib, 7.5 cm. broad, the outermost 1.5 dm. long, 5 cm. broad, the finely many-nerved midrib and about 40 pairs (on terminal leaflets) of secondaries brown, very prominent underneath, connected by the slender nearly straight tertiaries; peduncles stout, pilose with few stiff white hairs; spikes cylindrical, 1.5–2.5 dm. long, about 7 mm. thick, occasionally branched, drying blackish. (No. 2260.)

URTICA MAGELLANICA Juss.; Poir. Encyc. Suppl. 4: 223. 1833. (No. 1833.)

PILEA HYALINA Fenzl, Denks. Akad. Wien 1: 250. 1850. Coripata, April 11, 1894. (No. 2126.)

PILEA ANOMALA Wedd. Ann. Sci. Nat. III. 18: 217. 1852. "Grows in wet mould, the flowers white." Unduavi, September, 1894. (No. 2490.) The same as *Rusby 1478* and *1480*.

PILEA ROTUNDATA Griseb. Fl. Brit. W. Ind. 158. (No. 1796.) The same as *Rusby 1483*. Many collections of this, in both eastern and western tropical America, have been referred to *P. dauciodora* Wedd.

PILEA FILIPES Rusby, Bull. Torrey Club 28: 311. (No. 1788.)

PILEA URERIFOLIA Rusby, Bull. Torrey Club 28: 312. (No. 2374.) The same as *Rusby 1481*.

BOEHMERIA BREVIROSTRIS Wedd. Ann. Sci. Nat. IV. 1: 201.

1854. (No. 1800.) The same as *Rusby 1280* and *1281*.

MYRIOCARPA DENSIFLORA Benth. Bot. Voy. Sulph. 169, in obs. (No. 2219.)

PIENAX PALLIDA Rusby, Mem. Torrey Club 4: 259. (No. 2562.)

MYRICACEAE

MYRICA ARGUTA H.B.K. Nov. Gen. 2: 17. pl. 98. "A shrub 15-20 ft. high growing in rather dry gravel and clay; scarce."

Coripata, April 4, 1894. (Nos. 1808, 2049 and 2121.)

CASUARINEAE

Lacistema aggregatum (Berg.). (*Piper aggregatum* Berg. Act.

Helv. 7: 131. pl. 10. 1777. Fide Swartz. — *Lacistema myricoides* Swartz, Prodr. Veg. Ind. Occ. 12.) "A shrub

about 8 ft. high, in hedges, in gravelly soil along roadsides; abundant." Coroico, August 30, 1894. (Nos. 2400 and 2551.)

CUPULIFERAE

ALNUS ACUMINATA H.B.K. Nov. Gen. 2: 20. (No. 1893.)

BURMANNIACEAE

Apteria boliviiana sp. nov.

Glabrous; roots tangled, rather coarse; stems rhizomatous at the base, the erect portion 3-4 cm. long, subfiliform, dark-blue, sparsely branched, the branches erect; leaf-vestiges 2 mm. long, ovate, acute, sheathing by a broad base, brownish, scarious; flowers terminal, solitary, erect or more or less recurved; perianth deep-blue, darker at the base, 0.75-1 cm. long, infundibular-campanulate; lobes 6, about 1 mm. long, three of them broader; stamens inserted about the middle of the tube, 1.5 mm. long, the filaments very short, thick and fleshy, the wing at the base of the anthers about 1.5 mm. broad, 1 mm. long, the thecae a little more than half the length of the wing; ovary 2 mm. long, 1.5 mm. broad, oval; style thick and fleshy, 3 mm. long, the branches 1 mm. long, broadly dilated upward, the summit rounded or subtruncate, the delicate appendages (of texture similar to the wings of the stamens) about as long as the style-branches. (Specimen without number.)

Species near *A. lilacina* Miers.

ORCHIDACEAE

ISOCHILUS LINEARIS (Jacq.) R. Br. in Ait. Hort. Kew. ed. 2. 5: 209. (*No. 2913.*)

TELIPOGON sp. (*No data.*)

CRANICHIS CILIATA Kunth, Pl. Aeq. 1: 324. (*No data.*)

EULOPHIA MACULATA Reichb. f. Walp. Ann. 6: 647. (*No data.*)

STANHOPEA EBURNEA Lindl. Bot. Reg. pl. 1529. (*No data.*)

HOULLETIA ODORATISSIMA Linden; Lindl. & Paxt. Flow. Gard. 3: 172. (*No data.*)

PELEXIA sp. (*No data.*)

PRESCOTTIA sp. (*No. 2439.*)

PRESCOTTIA sp. (*No data.*)

TRICHOPILIA FRAGRANS Reichb. f. Otto Hamb. Gard. 14: 229. (*No data.*)

Aganisia boliviensis Rolfe, sp. nov.

Densely tufted. Leaves petiolate, lanceolate, acuminate, trinerved, 4-7 in. long, .5-1 in. broad; petioles 1-3 in. long. Scapes erect, 1.25-1.5 ft. high; racemes 2.5-3.5 in. long, about 8-12-flowered. Bracts spreading, lanceolate, acute, 2-3.5 lin. long. Pedicels 6-7 lin. long. Sepals ovate-oblong, obtuse, 5-6 lin. long, the lateral rather broader than the dorsal. Petals rather shorter than the dorsal sepals, but otherwise similar. Lip shortly stalked, pandurately trilobed, 4.5 lin. long; side lobes suborbicular, 1.5 lin. long; front lobe short and obtuse, prolonged laterally into a pair of rounded lobes, scarcely smaller than the side lobes; disc bearing an erect, bilobed callus about the center. Column broad, 1.5 lin. long, with broad, membranous, entire wings. (*No. 2909.*)

Allied to the Peruvian *A. ionoptera* Linden & Reichb. f., but distinctly different in the shape of the lip.

Pterichis Bangii Rolfe, sp. nov.

Leaves linear-oblong, subobtuse, narrowed about the middle into a long petiole, nearly as long as the blade, which latter measures about 2.5 in. long by 5-6 lines broad. Scapes erect, 6-12 in. long, bearing two to four long narrow sheaths, pubescent or almost velvety. Racemes 2-3 in. long and rather lax, velvety. Bracts ovate or ovate-lanceolate, acute, velvety, 3-5 lin. long. Dorsal sepal ovate-lanceolate, acute, united with the petals into an erect hood, about 3 lin. long; lateral sepals lanceolate, acuminate, 3 lin. long. Petals oblong-lanceolate, acute. Lip broadly reniform-orbicular, concave, obscurely trilobed, 4 lin. broad, somewhat velvety, and bearing several prominent radiating veins; side lobes broadly rounded; front lobe small, triangular, apiculate, and somewhat fleshy. Column broad, 1 lin. long. (*No. 2912.*)

Allied to *Pterichis Mandonii* (*Acraea Mandonii* Reichb. f.), but markedly different in the details of the lip.

***Stenoptera longifolia* Rolfe, sp. nov.**

Leaves oblong-lanceolate, subacute, with a long attenuate narrow base, 1 foot or more long, 10–13 lin. broad. scape tall (base not seen); raceme elongate, rather dense, 6 in. long, pubescent. Bracts ovate-lanceolate, acuminate, pubescent, 5–7 lin. long. Pedicels pubescent, 4–6 lin. long. Sepals very shortly connate at the base, elliptical-oblong, apiculate, pubescent, 3 lin. long. Petals linear, much narrower than the sepals, but nearly as long. Lip cucullate, broadly elliptical, apiculate, obscurely keeled behind, 2.5 lin. long. Column clavate, 1.5 lin. long. (No. 1920.)

Remarkable for its much elongated leaves, by which it is readily separated from *S. acuta* Lindl., the other Bolivian species.

RESTREPIA sp. (No data.)

? RESTREPIA sp. (No data.)

? SOPHRONITIS sp. (No data.)

ORNITHIDIUM spp. (2 species, without data.)

***Pleurothallis trialata* Rolfe, sp. nov.**

Stems stout, 4 in. long, bearing a tubular oblong sheath, with a free acute apex, below the middle. Leaf sessile, oblong or lanceolate-oblong, apiculate, 4–4.5 in. long, 1–1.25 in. broad. Scape 7–8 in. long; raceme lax, about 12-flowered. Bracts conduplicate, ovate, shortly acuminate, 4–6 lin. long. Flowers not or scarcely exceeding the bracts. Sepals narrow, with a broader base, and a very strong dorsal wing, 5 lin. long. Petals oblong, apiculate, 2 lin. long. Lip deltoid-oblong, apiculate, canaliculate at the base, clavate, strongly winged, 2 lin. long. (No. 1816a, p.p.)

A remarkable species, allied to *P. crocodilanthe* Reichb. f., but the leaves narrower and less coriaceous, the spike more lax, the bracts larger, and the sepals strongly winged, besides the differently shaped petals and lip. The flowers may not be fully developed, as the forwardest was only beginning to expand when the specimen was dried.

PLEUROTHALLIS CORDATA Lindl. Gen. & Sp. Orch. 5. Coripata, April 20, 1897. (No. 2151.)

PLEUROTHALLIS sp. (No. 2564.)

PLEUROTHALLIS sp. (No. 2240.)

PLEUROTHALLIS spp. (8 species, without data.)

***Pleurothallis Brittoni* Rolfe, sp. nov.**

Stems obscurely angled, moderately slender, 2–3 in. long. Leaves oblong or elliptical-oblong, subobtusate, somewhat attenuate at base,

1.75-2.5 in. long, 6-8 lin. broad. Scapes 3-5 in. long, about 8-10-flowered. Bracts 2 lin. long, tubular, with a short acuminate apex. Pedicels 3 lin. long. Sepals linear-lanceolate, somewhat attenuate towards apex, and subobtus, 5-6 lin. long. Petals subspathulate-oblong, obtuse, 2.5 lin. long, 1-nerved. Lip elliptical-oblong, subobtus, 2.0 lin. long, 3-nerved from base to near apex, where the nerves anastomose. Column clavate, 1.5 lin. long. (No. 1818.)

A species belonging to the section *Acuminatae* allied to the Venezuelan *P. aurea* Lindl., but smaller in all its parts, and the lip with a distinct median nerve in addition to the lateral pair.

STELIS sp. nov. (?) (No data.)

STELIS sp. (No. 1797a.)

STELIS sp. (No. 1797b.)

Stelis macrantha Rolfe, sp. nov.

Stems stout, 6-8 in. long. Leaves oblong or elliptical-oblong, oblong or minutely bidentate, petiolate, about 6 in. long, 1-1.5 in. broad; petioles 1-1.5 in. long. Flowering sheaths oblong, apiculate, .75 lin. long, usually producing two racemes. Racemes 7-12 in. long, many-flowered. Bracts broadly ovate-triangular, acute, 3-5 lin. long. Pedicels 2 lin. long. Sepals very unequal; dorsal ovate-oblong, obtuse, 4 lin. long; lateral ones united to near the apex into a broadly ovate, concave body, shorter and much broader than the dorsal sepal, shortly bifid at the apex. Petals short, 1 lin. broad, rounded at the apex. Lip smaller than the petals, truncate, apiculate at each angle. Column broad, slightly longer than the petals. (No. 1816a, p.p.)

Mixed with *Pleurothallis trialata* in both the Columbia College and Kew collections.

This species belongs to the section *Dialissa*, and is allied to the Peruvian *S. acutissima* Lindl., though the flowers are considerably larger.

Stelis boliviensis Rolfe, sp. nov.

Stems slender, 2.5-4 in. long. Leaves oblong-lanceolate, subacute, distinctly petiolate, 2.5-3 in. long, 7-10 lin. broad; petioles .5-.75 in. long. Flowering sheaths oblong, apiculate, 4-5 lin. long, producing two racemes, or sometimes only one. Racemes slender, 3-4.5 in. long, many-flowered. Bracts broadly triangular, and apiculate, from a funnel-shaped base, 1 lin. long. Pedicels 1 lin. long. Sepals sub-equal, broadly elliptical, subobtus, 1.25 lin. long, glabrous. Petals reniformly orbicular, a third as long as the sepals. Lip broadly ovate, subapiculate, concave, channeled along the centre, and with a pair of lateral tubercles near the base. Column very broad, about as long as the lip and petals. (No. 1817.)

This species must technically be placed in Lindley's too artificial section *Polystachyae*, in which it seems most allied to the Peruvian *S. mononeura* Lindl. but the lip is not so distinctly trilobed as in that species. The species of this genus are for the most part extremely difficult to distinguish in a dried state, on account of their minute flowers.

***Stelis scandens* Rolfe, sp. nov.**

Rhizome climbing, stoutish, internodes about 1 in. long. Stems stoutish, about 3 in. long. Leaves elliptical-oblong, minutely bidentate, distinctly petiolate, 2-3 in. long, 9-12 lin. broad; petioles 8-10 lin. long. Flowering sheaths ovate-oblong, apiculate, 3-4 lin. long, producing two, three, or sometimes only one raceme. Racemes 2-4 in. long, many-flowered. Bracts ovate-triangular, acute, 1.5-2 lin. long, from a shortly funnel-shaped base, slightly imbricating. Pedicels 1 lin. long. Sepals broadly ovate, subobtusate, 1.5-1.75 lin. long, glabrous. Petals nearly truncate, about a fourth as long as the sepals, .75 lin. broad. Lip broadly triangular-ovate, sub-apiculate, very fleshy, transversely carinate about the middle. Column broad, as long as the petals. (No. 1817 A.)

Technically belongs to the section *Polystachyae*, and may be placed next to the Venezuelan *S. grandis* Reichb. f., but is smaller in all its parts, besides having a more scandent habit.

STELIS BRITTONIANA Rolfe, Mem. Torrey Club 4: 261. 1895. (No. 2563.)

EPIDENDRUM SCABRUM R. & P. Syst. Veg. 248. (No. 1940.)

EPIDENDRUM RIGIDUM Jacq. Enum. Pl. Carib. 29. (No. 2220.)

EPIDENDRUM BRACHYCLADIUM Lindl. Fol. Orch. Epid. 60. (No. 2265.)

EPIDENDRUM FRIDERICI-GUILIELMI Warsc.; Reichb. f. Bonplandia 2: 110. (No. 2914.)

***Epidendrum Bangii* Rolfe, sp. nov.**

Stems stout, a foot or more high (base not seen). Leaves oblong-lanceolate, subobtusate, 3.5-5 in. long, 9-12 lin. broad; sheaths sulcate, and strongly rugose. Racemes 4-6 in. long; several- to many-flowered. Bracts spreading, ovate or lanceolate-ovate, acute or acuminate, 6-10 lin. long. Pedicels 4-5 lin. long. Dorsal sepal oblong-lanceolate, acute, 6-7 lin. long; lateral pair broader and somewhat oblique, acuminate. Petals linear, acute, 5 lin. long. Tip with its base adnate to the column; limb free, entire, fleshy, strongly cordate, partially conduplicate, with the apex acuminate and slightly recurved, 5 lin. long. Column stout, 3 lin. long, with the wings broadly rounded, and connected behind the anther by a thickened margin. (No. 1963.)

This species falls under the section *Euepidendrum Planifolia spathacea* in Lindley's artificial arrangement, and may be placed next the New Grenadan *E. macrostachyum* Lindl., which differs among other characters in its longer racemes and smaller flowers, with obtuse sepals and lip.

EPIDENDRUM spp. (10 species, without data.)

ONCIDIUM GLOBULIFERUM H.B.K. Nov. Gen. 1: 347. Coroico, September, 1894. (*No.* 2446.)

ONCIDIUM sp., near *O. abortivum*. (*No data.*)

ONCIDIUM sp., near *O. Crista-galli*. (*No data.*)

ONCIDIUM sp. Leaves only. (*No data.*)

Oncidium boliviense Rolfe, sp. nov.

Pseudobulbs ovoid-oblong, subcompressed, 1-1.5 in. long, 7-9 lin. broad, bearing a pair of sheathing leaves at the base, and a single one at the apex. Leaves ligulate, acute, coriaceous, 4-9 in. long, 4-9 lin. broad. Peduncle 1.25-3 ft. long, simple or with several branches 4-7 in. long. Bracts narrowly ovate-lanceolate, acuminate, 2-4 lin. long. Pedicels slender, 3-4 lin. long. Dorsal sepal ovate, acute or apiculate, 3-4 lin. long; lateral pair free, broadly lanceolate, acuminate, rather longer than the dorsal. Petals ovate, apiculate, somewhat undulate, shortly stalked, 3-4 lin. long, rather broader than the dorsal sepal. Lip pandurately trilobed, 7 lin. long; front lobe transversely oblong or nearly reniform, shortly bilobed at the apex, 6 lin. broad; side lobes nearly triangular, with an oblong obtuse apex, 2 lin. long by about as broad; isthmus 1 lin. long by about as broad; crest consisting of about ten linear obtuse papillæ, arranged in two fascicles, and separated by a short median keel. Column 1 lin. long; wings broadly dolabriform, .75 lin. broad.

Coripata, Yungas, May 16, 1894. (*No.* 2196.)

A member of Lindley's group *Hymenoptera expansa*, but markedly different from its allies in the details of the flower.

OCTOMERIA sp. (*No data.*)

Octomeria boliviensis Rolfe, sp. nov.

Stems stoutish, 4-8 in. high, clothed with three to five loose tubular sheaths, acute at the apex. Leaves lanceolate or oblong-lanceolate, obtuse or shortly bidentate, 3.5-4 in. long, 4-9 lin. broad, attenuate at the base into a short petiole. Bracts lanceolate-oblong, acute, striate, 4-5 lin. long. Flowers several in a fascicle. Pedicels 3-4 lin. long. Sepals lanceolate-oblong, acute, 6 lin. long. Petals similar but slightly narrower. Lip elliptical-oblong, 3.5 lin. long, pandurately trilobed; front lobe rhomboid, truncate, crenulate, nearly 2 lin. broad; side lobes small and rounded; disc with two sigmoid keels opposite to the isthmus. Column arcuate, 1 lin. long. (*No.* 2185.)

Allied to the Brazilian *O. grandiflora* Lindl., but the leaves shorter, and the lip much less deeply trilobed, with the side lobes smaller and the front lobe not bifid at the apex.

ZYGOPETALUM INTERMEDIUM PERUVIANUM Rolfe, *Lindenian* 9: 71.

(No data.)

ZYGOPETALUM sp. (No data.)

GALEANDRA LAGOENSIS Reichb. f. *Otia Bot. Hamb.* 88. (No data.)

NEODRYAS MANDONII Reichb. f. *Xen. Orch.* 3: 21. (No data.)

NEODRYAS RHODONEURA Reichb. f. *Bot. Zeit.* 10: 835. (No. 2911.)

COCHLIODA NOETZLIANA Rolfe, *Lindenian* 6: 55. *pl.* 266. (No. 1801.)

EPISTEPHIUM AMPLEXICAULE (R. & P.) Poepp. & Endl. *Nov. Gen.* 1: 52. *pl.* 91. (No. 2908.)

SCAPHYGLOTTIS sp. (No. 2287.)

LOCKHARTIA sp. Specimens in fruit. (No. 2286.)

GYROSTACHYS sp. Coroico, Yungas, September. (No. 2439a.)

GYROSTACHYS spp. (3 species without data.)

PHYSURUS spp. (5 species without data.)

CATASETUM sp. (No data.)

ELLEANTHUS sp. (No data.)

MASDEVALLIA sp. Coroico, September 8, 1894. (No. 2494.)

MASDEVALLIA sp. Coroico, September 8, 1894. (No. 2424.)

Masdevallia scandens Rolfe, sp. nov.

Rhizomes climbing, moderately stout, with the internodes .5 to over 1 inch apart. Leaves lanceolate, subacute, somewhat coriaceous, the blade 1.25-3 in. long, 4-7 lin. broad, attenuate at the base into a narrow petiole 1-3 in. long. Scapes moderately stout, 3-4 in. long, 1-flowered. Sepaline tube 2-3 lin. long, by fully as broad; dorsal limb obovate-oblong, 4 lin. long, and terminating in a stout tail 5-6 lin. long; lateral limbs broadly ovate, 5 lin. long by nearly as broad, and united at their adjacent angle for a short distance beyond their junction with the tube; tails 10-12 lin. long. Petals narrowly oblong, obtuse or minutely bidentate, 2.5 lin. long. Lip elliptical-oblong, obtuse or shortly apiculate, slightly channeled along the center, 2.5 lin. long. Column clavate, narrowly winged, 2 lin. long. (No. 1797.)

A very distinct species of the *M. caudata* group, readily distinguished by its scandent habit. Its nearest affinity is at present rather doubtful, but several species are still only known from Reichenbach's descriptions.

SOBRALIA D'OREIGNYANA Reichb. f. Xen. Orch. 2: 179 (no description). (No. 2290.)

SOBRALIA DICHOTOMA R. & P. Syst. Veg. 232. (No. 2266.)

MAXILLARIA GRANDIFLORA Lindl. Gen. & Sp. Orch. 147. (No. data.)

MAXILLARIA sp. (No data.)

?HABENARIA GOURLIEANA Gill.; Lindl. Gen. & Sp. Orch. 309. (No. 2268.)

HABENARIA sp. (No. 2910.)

HABENARIA sp. nov. (No data.)

HABENARIA sp. Coroico, Yungas, September, 1894. (No. 2440.)

HABENARIA spp. (2 species without data.)

LIPARIS NEUROGLOSSA Reichb. f. Xen. Orch. 3: 26. (No. 1787.)

Liparis Rusbyi Rolfe, sp. nov.

Rhizomes creeping, elongated and moderately stout. Leaves two or three, broadly ovate, subobtusely, membranous, 2.5-3 in. long, 2-2.5 in. broad; petioles 1.5-2.25 in. long, broad, and sheathing at the base. Scapes 5-8 in. high; racemes 1.5-4 in. long, lax. Bracts triangular-lanceolate, acute, 3-5 lin. long. Pedicels 6 lin. long. Flowers large. Sepals linear, obtuse, 5 lin. long. Petals narrower than the sepals and rather shorter. Lip obovate, minutely crenulate, slightly retuse at the apex, with numerous radiating nerves, and a pair of minute teeth at the base, 6 lin. long, 5 lin. broad. Column curved, 1.5 lin. long. Capsule ellipsoid, 6-7 lin. long, with a pedicel of about its own length. (No. 2565.)

A very distinct species, with the general habit of *L. neuroglossa* Rchb. f., but about twice larger in all its parts. The color of the flowers is not recorded, but in the dried state the lip is distinctly tinged with pink, rather darker on the nerves, while the sepals and petals appear to have been pale whitish green.

LIPARIS sp. (No data.)

ODONTOGLOSSUM RIGIDUM Lindl. Pl. Hartw. 152. (No. 1946.)

ODONTOGLOSSUM CHIRIQUENSE Rchb. f. Bot. Zeit. 10: 692. (No data.)

ODONTOGLOSSUM CORONARIUM Lindl. Fol. Orch. Odontog. 21. (No. 1960.)

SCITAMINEAE

Costus Mooreanus sp. nov.

Leaves densely and closely sericeous, highly lucid upon the lower surface; stems and petioles not seen; blades 2.5 or 3 dm. long,

about 7 cm. broad, lanceolate, truncate or rounded at the base, acuminate, thick, dull or lightly shining above, the secondaries running nearly parallel with the midrib; spike ovate (but one seen), about 1.5 dm. long, 8 cm. broad, very dense; bracts 4-6 cm. long, the body oblong-lanceolate, obtuse, thick, rigid, yellowish, strongly nerved, bearing foliar appendages, which are 1-2.5 cm. long, 1-2 cm. broad, ovate, acute or obtuse, cordate, sericeous like the leaves, strongly reflexed; corolla (light yellow?), about 7 cm. long, 5 cm. broad, the tube 2 cm. long, slenderly infundibular, the body campanulate.

Vic. Cochabamba. (No. 2058.) Species near *C. argenteus* R. & P. Dedicated to Mr. Spencer LeM. Moore, who has kindly pointed out its intermediate position between *C. argenteus* and *C. comosus* Roscoe.

RENEALMIA VENTRICOSA Griseb. Cat. Pl. Cuba 256. (No. 2566.)

ISCHNOSIPHON PARKERI (Rosc.) Koern. Bull. Soc. Nat. Mosc. 35¹: 81. 1862. (*Phrynium Parkeri* Rosc. Mon. Pl. Scit. pl. 42.) (No. 2567.)

(No. 2201 is apparently an undetermined species of *Ischnosiphon*, but dissection material is wanting.)

MARANTA TONCKAT Aubl. Pl. Guian. 1: 3. "Grows a few feet high, in rich soil, along hedges, the flowers white; scarce." Coripata, April 8, 1894. (No. 2122.)

CALATHEA GRANDIFOLIA Lindl. Bot. Reg. pl. 1210. (Specimen without number.) The same as *Rusby* 2226, although the leaves are smaller.

Calathea nodosa sp. nov.

Glabrous; leaf (but one seen) strongly petioled, the blade 5 dm. long, 2.75 dm. broad, obovate, rounded at both ends; stems strongly nodose-swollen at the insertion of the peduncles; heads about 7 cm. long, 1 dm. broad, very shortly and very stoutly peduncled, about 15-20-flowered; bracts 4-5 cm. long, 2-2.5 cm. broad, oval, the summit very abruptly produced into a slight point, thick and rigid, very finely and very many-nerved; bractlets 4 cm. long, half as broad, oval, obtuse, the summit fimbriate, plicate and bearing two broad, thin, ciliate keels upon the back; flower not seen; fruit nearly 2 cm. long, 7 mm. broad, obovoid, bluntly triangular, inequilateral, shining, tipped by the pale calyx, which is 12 mm. long, the segments oblong, 2 mm. wide, obtuse, stiff, shining, and enclosing the persistent style, which is a little shorter and divided nearly half way; seed black, nearly smooth, 7 mm. long, half as broad, ovoid with truncate base and rounded summit. (No. 2569.)

***Calathea (Monostiche) stromanthifolia* sp. nov.**

Glabrous except for a light scurfiness upon the base of the bracts and under the lens a minute puberulence upon the lower leaf-surfaces; petioles 1-1.5 dm. long, broad; blades 1.5-2.5 dm. long, 0.7-1 dm. broad, obovate, blunt or rounded at the base, very abruptly, very shortly and acutely pointed, pale, thin, the principal secondaries having between them about 25 exceedingly fine nerves running parallel as seen on the upper surface, and as seen on the lower surface connected by innumerable fine transverse ones, the midrib very strong and broad; peduncle (but one seen) light-yellow, about 2 cm. long, rather slender, deflexed; head 5-6 cm. long and nearly as broad, about 12-18-flowered; bracts 3-4.5 cm. long.

Vic. Cochabamba, 1891. (*No.* 2009.)

CANNA PEDUNCULATA Rosc.; Sims, Bot. Mag. *pl.* 2323. "Grows 2-6 ft. high, in wet clay, the flowers yellow." Coripata, September 5, 1894. (*No.* 2413.)

CANNA BRITTONI Rusby, Bull. Torrey Club 29: 695. 1902. (*No.* 2417.) The same as *Rusby* 2857.

HELICONIA ROSTRATA R. & P. Fl. Per. 3: 71. *pl.* 305. (*No.* 2568.)

BROMELIACEAE

***Aechmea boliviana* sp. nov.**

Finely scurfy; stems slender, rigid, height unknown; leaves 4-6 dm. long, 1.5-2 cm. broad, linear, narrowed toward the base, which is much-dilated and sheathing, attenuate at the apex, spiny-toothed, the teeth about 2 mm. long, divergent, stoutish, the leaf thick but not rigid; panicle (but one seen) about 7 cm. long and almost as broad, very dense; scales about 4 mm. long, broadly ovate, with a short pungent point, spreading; flowers not seen; capsule 1 cm. long, nearly half as broad, conical-ovoid, soft at the base, cartilaginous at the apex and crowned by three lightly recurved spines 1-2 mm. long; seeds reddish-brown, minutely reticulate, 2-4 mm. long, 1 mm. broad, straight or lightly curved, lance-oblong, obtusish. (Specimen without number or duplicates.)

***Aechmea involucrata* sp. nov.**

Minutely scurfy, the younger portions somewhat floccose; stems very stout, about 4 dm. long in my specimens, concealed in the erect, closely sheathing leaves, which are 1-4 dm. long, 3-5 cm. broad, lanceolate, the outer successively shorter and broader, the outermost broadly ovate, all very strongly nerved, thick and rigid, pungently spine-pointed, the spines dark-purple, the margins pungently spiny-toothed, the teeth 2-3 mm. long, stout, strongly up-curved; spike 2 dm. long, 5 cm. broad, very densely-flowered,

obtuse; bracts, in flowering stage, nearly 1 cm. long, tipped by a stiff, slender point 1 mm. long, many-ribbed, enclosing the base of the flower and the edges nearly meeting, rigid with a rather broad hyaline border; sepals 1.75 cm. long, ovate, short-acuminate, the acute apex slightly recurved-spreading; petals exceeding the sepals by 5-7 mm., purple with darker veins, obovate with rounded summit, concave, semi-rigid; stamens a little shorter than the petals, the filament hyaline-margined, the anther 4 mm. long; ovary 5 mm. long, obovoid, truncate, tuberculate; style stoutish, rigid, 1.5 cm. long, inclusive of the branches, which are 3 mm. long. (Specimen without number or duplicates.)

***Pitcairnia biattenuata* sp. nov.**

Younger portions scurfy-tomentose; stems 7-8 dm. long, slender, from a very stout base, dark-purple, terete; leaves proper all basal, 3-5 dm. long, linear, broadest (about 3 cm.) above the middle, the lower portion very narrow, dark-purple, spiny-toothed, the teeth about 3 mm. long, divergent or slightly recurved, the very base of the leaf abruptly dilated into a very broad sheath; bracts of the stem lanceolate, rigid, closely sheathing, long-acuminate and acute; inflorescence slightly paniculate, the bracts 1 cm. or less long, similar to those of the culm; pedicels about 1 cm. long, spreading; calyx exceeding 2 cm., the tube nearly as broad as long, the segments tapering, rigid, keeled; corolla twice the length of the calyx, strongly recurved.

"A small plant about 5 ft. high, with red flowers, scarce in wet, clayey soil." Coripata, Yungas, April 26, 1894. (No. 2155.)

***Pitcairnia sessiliflora* sp. nov.**

Rather sparsely scurfy-tomentose; stems about 1 m. high, slender, terete, striate; leaves proper all basal, numerous, nearly as long as the stem, broadest (about 1.5 cm.) above the middle, the lower portion involute and appearing as though terete, strongly uncinately-toothed, the teeth dark-purple, 1-2 mm. long, some leaves consisting only of these narrow, dark, toothed bases, others terminating in long setiform blades; stem bearing closely sheathing, lanceolate, acuminate and pungently pointed bracts 3-4 cm. long; flowers distantly spicate, the subtending bracts about 1 cm. long, broadly ovate, acuminate, pungent; calyx nearly 2 cm. long, the segments linear-lanceolate, rigid, very strongly keeled, and nerved, acute; corolla 7 cm. long, slender, yellow (?). (Specimen without number or duplicates.)

GUZMANIA MONOSTACHYA (L.) Rusby; Mez, Mon. Brom. 905.

(No. 1802.) The same as no. 1582.

TILLANDSIA FLORIBUNDA H.B.K. Nov. Gen. 1: 292. (Specimen without number.)

TILLANDSIA sp., probably undescribed, but flowers are wanting.
(No. 2202.)

TILLANDSIA sp. The specimen undeterminable. (No. 2012.)

? TILLANDSIA sp. Dissecting material is wanting. (No. 2301.)

HAEMODORACEAE

? ZEPHYRA sp. (No. 2042.)

IRIDACEAE

SISYRINCHIUM IRIDIFOLIUM H.B.K. Nov. Gen. 1: 324. (No. 1864.)

SISYRINCHIUM JUNCEUM E. Meyer, in Presl, Rel. Haenk. 1: 118.
(No. 2579.)

SISYRINCHIUM LEUCANTHIUM Colla, Mem. Acc. Torin 39: 18.
1836. (Specimen without number.) The same as *Rusby* 695.

SISYRINCHIUM MICRANTHUM Cav. Diss. 6: 345. *pl.* 19, *f.* 2?
(No. 2578.) Apparently the same as *John Donnell Smith* 3871,
and collected also at Mendoza.

SISYRINCHIUM UNISPATHACEUM Klatt, Linnaea 34: 737. 1866.
(No. 1922.)

AMARYLLIDACEAE

HYPOXIS DECUMBENS L. Pl. Jam. Pugill. 11. — Syst. ed. 10. 986.
(No. 1793.)

HIPPEASTRUM MANDONI Baker, Handb. Amaryll. 49. “A small
plant, the flowers red and green.” Coroico, September, 1894.
(No. 2476.) “A small plant with large fleshy bulbs, growing
in mould, in forest-shade, the flowers red; abundant.” Coripata,
June 20, 1894. (No. 2302.)
(No. 2500 is also a species of *Hippeastrum*, perhaps the same.)

BOMAREA ANDIMARCANA Baker, Handb. Amaryll. 147. (No. 2014.)

BOMAREA EDULIS (Tussac) Herb. Amaryll. 111. (Nos. 2037 and
2915, *vide* Baker. See remarks under this species in Enum.
Rusby's plants, Bull. Torrey Club 29: 224, 225. 1902.)

BOMAREA FORMOSISSIMA (R. & P.) Griseb.; Baker, Handb.
Amaryll. 153. (*Alstroemeria formosissima* R. & P. Fl. Per. 3:
64.) (No. 1936a.) The same as *Pearce* 705 and *Rusby* 566.

BOMAREA MULTIFLORA (L.) Mirbel, Hist. Nat. Pl. 9: 72. 1804.
(*Alstroemeria multiflora* L. f. Suppl. 207.) (Nos. 1936 and
2038.) The same as *Rusby* 564.

BOMAREA SALCILLA Mirbel, l. c. 71. (No. 2039.)

Bomarea (*Sphaerine*) *flava* Baker, sp. nov.

Leafy part of the stem slender, curved, glabrous, $\frac{1}{2}$ ft. long. Leaves many, crowded, lanceolate, sessile, erect-patent, resupinate, $1-1\frac{1}{2}$ in. long, $\frac{1}{4}-\frac{1}{3}$ in. broad at the middle, acute, glabrous above, hairy and strongly ribbed beneath. Umbel simple, 4-flowered; pedicels ascending, $\frac{1}{2}$ in. long; bracts small or large. Perianth bright-yellow, $\frac{1}{3}$ in. long; segments oblong-spatulate, equal, not spotted on the face, the three outer faintly keeled outside with green. Stamens curved, nearly as long as the perianth; anthers orbicular, small, yellow.

Near *B. minima* Baker, Handb. Amaryll. 144. (No. 2013.)

DIOSCOREACEAE

DIOSCOREA CONVULVACEA Schlecht. & Ch. Linnaea 6: 49. 1831.
(No. 2916.)

DIOSCOREA CYMOSULA Hemsl. Biol. Cent. Am. Bot. 3: 355. (No. 2577.) The same as *Rusby* 1449.

DIOSCOREA FURCATA Griseb.; Mart. Fl. Bras. 3¹: 45. "Grows in wet forest-mould and climbs 8-10 ft. high, the flowers greenish-white; abundant." Yungas (Sacramento), August 27, 1894.
(No. 2397.) The same as *Rusby* 532 and 1047.

DIOSCOREA GALEOTTIANA Kunth, Enum. Pl. 5: 409. (No. 2040.)

Dioscorea racemosa sp. nov.

Inflorescence, especially the calyx-tube, scurfy-tomentose, gray; stems slender, strongly sulcate; petioles 2-5 cm. long, ribbed; blades 0.7-1.5 dm. long and broad, ovate, cordate with a broad shallow sinus, very abruptly and shortly pointed and acute, very thin, bright-green, 9-ribbed, the ribs prominent only underneath, connected by the sparse, nearly straight secondaries; racemes short-peduncled, 1-2 dm. long, slender, costate, loosely-flowered; pedicels very short and stout; ovary 5-7 mm. long, 2-3 mm. broad, oblong, obtusely triangular, downy, strongly ribbed; perianth-segments 3-4 mm. long, 1.5 mm. broad, lance-oblong, downy at the base, thick; styles nearly equaling the perianth when straightened out, very strongly recurved, thick, bifid about half way, the divisions thick, flattened, acutish.

"A climber, scarce; wet sandy soil near the river, the flowers green." Coripata, May 9, 1894. (No. 2180.)

Dioscorea glauca sp. nov.

Pale and glaucous; stems stoutish, terete; petioles (upper leaves only seen) about 5 cm. long, stoutish; blades 1 dm. long, 8 cm. broad, ovate, lightly cordate, very shortly acute-pointed, thickish,

very slenderly 5-nerved, the secondaries sparse and obscure; peduncles 5-7 cm. long, very slender, the racemes (in fruit) 3-3.5 dm. long; ovary 5-8 mm. long, 3 mm. broad, oblong, short-beaked, strongly ribbed; campanulate portion of perianth 2.5 mm. long and broad, the strongly reflexed lobes 1.5 mm. long, ovate, thickish; styles 3, entire, the large stigmas slightly exserted; fruit 3 cm. long, broadly and shallowly cordate at both ends, the wings 2.5 cm. broad, regularly rounded, with numerous fine, obscure nerves transversely disposed.

"Climbing 15 feet or more, the flowers brown; in dry clayey and slaty soil." Coripata, June 20, 1894. (No. 2334.)

Dioscorea arcuata sp. nov.

Glabrous, stems stoutish, coarsely angled; petioles 0.75-1.5 dm. long, stout, ribbed; blades 1-2 dm. long, 0.5-1.5 dm. broad, regularly cordate-ovate, the sinus deep and narrow, or the lobes overlapping, abruptly acuminate and acute at the apex, very thin, shining underneath, very strongly about 13-ribbed, the ribs strongly and beautifully curved, prominent underneath, connected by the coarsely reticulate, slender, crooked secondaries; peduncles 3-5 cm. long, slender, spreading, the flower-bearing portion of the raceme 0.5-1 dm. long; pedicels 2-3 mm. long, stoutish; perianth 4 mm. long, the segments oblong-obovate with rounded apex, nearly 2 mm. broad; filaments less than 1 mm. long, thick, the anthers short and broad; fruit 2 cm. long, 8-9 mm. broad, oval, tipped by a very short, stout point. (No. 1786.)

LILIACEAE

SMILAX MEXICANA Griseb.; Kunth, Enum. Pl. 5: 167. (No. 2203, p.p., with lanceolate leaves.)

SMILAX PHYLLOLOBA Griseb. in Mart. Fl. Bras. 3¹: 21. (No. 2203, p.p., the leaves broadly ovate.) The same as *Rusby* 560.

SMILAX TOMENTOSA H.B.K. Nov. Gen. 1: 272. "Grows in good forest mould. Climbing 20 ft. or more high, the flowers yellow; scarce." Coripata, April 19, 1894. (No. 2134.) Collected also by *Holton*.

SMILAX IRRORATA Griseb. in Mart. Fl. Bras. 3¹: 10. (Specimen without number.) The same as *Rusby* 561.

EXCREMIS COARCTATA (R. & P.) Baker, Jour. Linn. Soc. 15: 320. 1876. (*Anthericum coarctatum* R. & P. Fl. Per. 3: 67. pl. 299, f. a.) (No. 2277.) The same as *Rusby* 2504 and 2856.

XYRIDACEAE

XYRIS sp. — This species is in all probability undescribed, but farther comparison is needed. It appears related to *X. eriophora* Klotzsch. (No. 2580.)

PONTEDERIACEAE

- EICHHORNIA PAUCIFLORA Seub. in Mart. Fl. Bras. 3¹: 91. "A small aquatic, the flowers white." Coripata, April 20, 1894. (No. 2145.) The same as *Rusby* 533.

COMMELINACEAE

(Determined by Mr. C. B. Clarke)

- PHAEOSPHERION PERSICARIAEFOLIUM (Delile) C. B. Clarke, in DC. Monog. Phan. 3: 137. (*Commelina persicariaefolia* Delile in Red. Lil. pl. 472.) (No. 2917.)
- COMMELINA QUITENSIS Benth. Pl. Hartw. 258. (No. 2010.) The same as *Rusby* 847.
- DICHORISANDRA HEXANDRA (Aubl.) Kuntze, Rev. Gen. Pl. 721. (No. 2918.) The same as *Rusby* 1230.
- DICHORISANDRA GAUDICHAUDIANA Kunth, Enum. Pl. 4: 113. (No. 2573.)
- DICHORISANDRA INAEQUALIS Presl, Rel. Haenk. 1: 140. (Specimen without number.) The same as *Rusby* 1231.
- DICHORISANDRA VILLOSULA Mart. in Schult. f. Syst. 7: 1185. (No. 2571.) The same as *Rusby* 1233.
- TINANTIA FUGAX Scheidw. in Otto & Dietr. Allg. Gart. 7: 365. 1839. (No. 2575.)
- TRADESCANTIA GENICULATA Jacq. Enum. Pl. Carib. 18. (Nos. 2572 and 2576.)

JUNCACEAE

- JUNCOIDES RACEMOSUM (Desv.) Kuntze, Rev. Gen. Pl. 725. (No. 1871.)
- JUNCUS ANDICOLA Hook. Ic. Pl. pl. 714. (No. 2410.)

AROIDAE

(Determined by Mr. N. E. Brown)

- PHILODENDRON RUBENS Schott, Syn. Aroid. 84. (Specimen without number.)
- PHILODENDRON sp., the material unfit for determination. (No. 2586.)

Stenospermation Rusbyi N. E. Brown, sp. nov.

Stems not seen. Leaves erect, crowded, glabrous; petiole (including the $\frac{1}{2}$ - $\frac{3}{4}$ in. long geniculus) 15-16 in. long, broadly sheathing for half its length; blade 11-16 in. long, $4\frac{1}{2}$ - $4\frac{3}{4}$ in.

broad, oblong, acute or obtuse with a short subcuspidate point; midrib impressed above; lateral nerves very numerous, crowded, parallel, ascending, slightly curved, not prominent on either side. Peduncle about 2 ft. long, 2 lines thick, recurving at the apex. Spathe about 6 in. long and 1 in. broad, narrowly oblong, acute, tipped with a subulate point $\frac{1}{2}$ in. long, not reflexed in the specimen seen. Spadix $4\frac{1}{2}$ –5 in. long, about $4\frac{1}{2}$ lines thick, on the stipes 2–3 lines long. Ovary with a flat, square apex $\frac{1}{8}$ in. diameter, imperfectly 2-celled; style about $\frac{1}{2}$ line long; stigma small, discoid; ovules numerous, basal, surrounded with mucilage.

Yungas. (No. 2609.)

Allied to *S. multiovulatum* N. E. Br., but differs from that species by the petiole being vaginate for only half its length, the very much narrower spathe, and the short but distinct style.

ANTHURIUM TRIPHYLLUM Brongn.; Schott, Prod. Aroid. 548.

“Grows on old trunks in forest-shade, the flowers green; scarce.”

Coripata, June 22, 1894. (No. 2203.)

ANTIURIUM TRINERVE Miq. Linnaea 17: 66. 1843. “On old trunks in forest, the flowers green.” Coripata, June 22, 1894.

(No. 2307, as to specimens with the leaves nearly acute.)

ANTIURIUM VIOLACEUM (Sw.) Schott, Melet. 1: 22. (*Pothos violaceus* Sw. Prod. Veg. Ind. Oce. 32.) (No. 2307, as to specimens with leaves tapering at the apex.)

ANTHURIUM LECHILERIANUM Schott, Prod. Aroid. 534. (No. 2582.)

ANTHURIUM GRACILE Lindl. Bot. Reg. pl. 1635. (No. 2584.)

The same as *Rusby* 2429 and 2430.

Anthurium parile N. E. Brown, sp. nov.*

Stem elongated, $\frac{1}{2}$ in. thick, internodes $\frac{1}{4}$ – $\frac{1}{2}$ in. long. Leaves erect, glabrous; petiole 2–3 $\frac{1}{2}$ in. long, including the 2–3 lines long geniculus; blade 10–12 in. long, $1\frac{1}{4}$ –2 $\frac{1}{4}$ in. broad, strap-shaped or oblong-lanceolate, acute or subacuminate at the apex, cuneate at the base; midrib very prominent and rounded above, less prominent beneath; primary lateral nerves numerous on each side of the midrib, sub-parallel, ascending, united in an intramarginal nerve $1\frac{1}{4}$ –3 lines distant from the margin, slightly prominent

* Since the preparation of this paper, this species and the three following ones have been published by Professor Engler, and the places of publication should be cited as follows:

A. parile N. E. Brown; Engler, Pflanzenreich 4^{23b}: 151. 1905.

A. rusticum N. E. Brown; Engler, loc. cit. 82.

A. coripatense N. E. Brown; Engler, loc. cit. 255.

A. grande N. E. Brown; Engler, loc. cit. 204.

on both sides in the dried state. Peduncle 6-11 in. long, 1-1½ line thick. Spathe 1½-2 in. long, 3-4 lines broad, linear-oblong, obtuse, tipped with a subulate point ¼ in. long, amplexicaul at the base, not decurrent, reflexed. Spadix sessile, 2½-3½ in. long, 2-2½ lines thick. Flowers large, 1½-2 lines in diameter. Ovary broadly obovoid; stigma sessile; cells 1-ovulate.

Yungas. (No. 2585.)

Allied to *A. gracile* Lindl., but is a stouter plant, and the leaf does not taper so much at the base and apex.

Anthurium rusticum N. E. Brown, sp. nov.

Stem stout. Scale-leaves 4 in. long, 1 in. broad. Leaves erect, glabrous; petiole 4-5 in. long, including the ⅓-½ in. long geniculus, ⅓ in. thick, channeled down the face; blade 2-2¼ ft. long, 6-7 in. broad, broadly oblong-ob lanceolate, subobtuse and shortly mucronulate at the apex, cuneately tapering from about the middle to an acute base; margins slightly sinuate; midrib very prominent and acute on both sides in the lower part; primary lateral nerves 14-16 on each side of the midrib, nearly straight in their lower half, then curved and running out to the margin, the 4-5 upper on each side alone uniting in an intramarginal nerve 2-3 lines distant from the margin. Peduncle 12-16 in. long, 2-2½ lines thick. Spathe (only imperfect examples seen) 3-4 in. long, about 1 in. broad, narrowly oblong, reflexed, decurrent for about ¾ in. at the base. Spadix sub-sessile, 3-3½ in. long, ¼ in. thick. Flowers ⅓-1 line in diam. Ovary oblong; stigma sessile; cells 1-ovulate.

Yungas. (No. 2479.)

This species somewhat resembles *A. crassinervium* Schott, but has much smaller leaves, and a shorter spadix.

Anthurium coripatense N. E. Brown, sp. nov.

Leaves large, cordate, glabrous; petiole 20-22 in. long, including the 1 in. long geniculus, 3-4 lines thick; blade 18-20 in. long, 1 ft. broad across the basal lobes, elongated deltoid-ovate, apex?, base cordate, with a broad, rounded, open sinus 3-3½ in. deep; basal lobes broadly rounded; midrib prominent on both sides, acute above, rounded beneath; primary lateral nerves 14-15 on each side of the midrib, spreading at an angle of about 45°, nearly straight, the upper ones uniting in an intramarginal nerve 1-1½ line distant from the margin, the lower excurrent at the margin or uniting into an interrupted intramarginal nerve; basal nerves about 8 on each side, the inner one on each side free, all the rest united into one at the base, denuded for about 1¼ in. at the sinus, curved, excurrent at the margin. Peduncle about 20 in. long, 2½ lines thick, glabrous. Spathe (imperfect in the specimens seen) over 6 in. long, about 1 in. broad, strap-shaped, reflexed, amplexicaul or somewhat

decurrent at the base. Spadix $4\frac{1}{2}$ – $5\frac{1}{2}$ in. long, on a stipe $\frac{1}{4}$ – $\frac{1}{2}$ in. long, 3–4 lines thick. Flowers 1 line in diameter. Ovary oblong; stigma sessile; cells 1-ovulate.

Coripata, Yungas. (No. 2311.)

Allied to *A. aranthæ* Baker, but differs in its more elongated leaf with a much more obtuse basal sinus, and a stouter spadix.

Anthurium grande N. E. Brown, sp. nov.

Leaves large, cordate, glabrous; petiole 2 ft. or more long; blade about 20 in. long, 14 in. broad, exactly ovate in outline, obtuse with a short apiculus at the apex, deeply cordate at the base; basal lobes 5 in. long, broadly rounded, much overlapping; midrib prominent and rounded on both sides; primary lateral nerves about 9 on each side of the midrib, spreading at an angle of about 45° , slightly curved; basal nerves about 7 on each side, the 4 outer of which are more or less united at the base, not denuded at the sinus, and directed downwards into the basal lobes, the others spreading or ascending, all the nerves, lateral and basal, united in an intramarginal nerve 1– $1\frac{1}{2}$ line distant from the margin, prominent and rounded beneath, slightly prominent above; under surface densely covered with minute fuscous dots in the dried state. Peduncle 8 in. long in the specimens seen, probably about as long as the petiole, stout, glabrous. Spathe 7 in. long, $4\frac{1}{2}$ in. broad, ascending or spreading, expanded, broadly ovate, acute, cordate at the base with short overlapping lobes. Spadix shortly stipitate, 6 in. long, about $\frac{3}{4}$ in. thick at the base, cylindrical, slightly tapering. Flowers rather large, about $1\frac{1}{2}$ line in diameter. Ovary ovoid, tapering into a short stout style, which is not exerted beyond the perianth; cells 1-ovulate.

Yungas. (Nos. 2312 and 2583.)

This fine species is more nearly allied to *A. ornatum* Schott, than to any other at present described; it differs from that plant in having the sinus of the leaf enclosed by the overlapping basal lobes, and by the much broader spathe which has overlapping basal auricles, whilst in *A. ornatum*, the spathe is decurrent at the base. ANTHURIUM sp., almost certainly undescribed, but better specimens are necessary. (No. 2581.)

ANTHURIUM sp. nov. (?) near *A. Bredemeyeri* Schott. (Specimen without number.)

EQUISETACEAE

EQUISETUM BOGOTENSE H.B.K. Nov. Gen. 1: 42. (Nos. 1814 and 2923.)

EQUISETUM GIGANTEUM L. Syst. ed 10. 1318. (No. 1901.)

LYCOPODIACEAE

LYCOPODIUM CLAVATUM L. Sp. Pl. 1101. (No. 1844.)

LYCOPODIUM REFLEXUM Lam. (No. 2926.)

FILICES

(Communicated by Mr. B. D. Gilbert)

? GLEICHENIA CRYPTOCARPA Hook. Determined in the absence of fruit. (No. 2924, in part.)

GLEICHENIA MATHEWSII Hook. Fragments of this species, to be distinguished by the squamose stem, were mixed with the last.

? CYATHEA FURFURACEA Baker. "Seven meters high; in forest shade." Coripata, June, 1894. (No. 2318.)

ALSOPHILA ARMATA (Sw.) Presl. (No. 2429, but perhaps distributed as 2829.)

ALSOPHILA PRUINATA Kaulf. "Wet mould, in forest." Coripata, May 18, 1894 (No. 2200); without locality or data (No. 1848).

DICKSONIA DISSECTA Sw. "In wet mould, forest shade." Coripata, September 17, 1894. (No. 2423.)

TRICHOMANES KAULFUSSII H. & G. (No. 2604.)

ADIANTUM FRUCTUOSUM Kunze. (No. 2284.)

ADIANTUM EMARGINATUM Bory. (No. 1771.)

ADIANTUM WAGNERI Mett. "In damp shady soil. Local name 'Vacci-vacci,' and used as an emetic." Coripata, February 26, 1894. (No. 2064.)

ADIANTUM DIGITATUM Presl. (No. 1779.)

ADIANTUM sp. Specimens without fruit. (No. 2924, in part.)

PTERIS PODOPHYLLA Sw. "In wet mould, forest shade, scarce, Trunk short, and petioles very long." Sacramento, Yungas, August 14, 1894. (No. 2384.)

PTERIS (*Litobrochia*) INCISA Thunb. Near the form called *P. sinuata* Brack. (No. 2253.)

LOMARIA ACUTA Desv. The fertile frond only seen. (No. 2593.)

LOMARIA FÉEII Jenman. "In mould, forest shade." Coripata, June, 1894. (No. 2317.)

BLECHNUM NIGRO-SQUAMATUM B. D. Gilbert, Bull. Torrey Club 24: 258. 1897. "In running water." Calapampa, July 4, 1894. (No. 2314.)

ASPLENIUM FURCATUM Thunb. "Scarce, in mould, in shade of shrubbery." Coripata, April 19, 1894. (No. 2138.)

- ASPLENIUM LUNULATUM Sw. "In dry mould, in forest." Coroico, September 3, 1894. (Nos. 2285 and 2419, the latter perhaps distributed as 2819.)
- ASPLENIUM AURITUM-RIGIDUM Sw. (No. 2251.)
- ASPLENIUM STRIATUM L. (No. 4005.)
- ASPLENIUM HARPEOIDES Kunze. (No. 2233.)
- ASPLENIUM CICUTARIUM Sw. A barren form, the segments more spatulate than in the fertile form. (No. 2594.)
- DRYOPTERIS PUBERULA Kuntze. Calapampa, Yungas, July 4, 1894. (No. 2313.) Known only from Mexico, heretofore.
- DRYOPTERIS CONTERMINA (Desv.) Kuntze. Calapampa, Yungas, July 4, 1894, in wet yellow clay, amidst grass. (Nos. 2366 and 2321.)
- DRYOPTERIS OLIGOCARPA (H. & B.) Kuntze. (No. 4011.)
- DRYOPTERIS FILIX-MAS (L.) Schott. (No. 1784.)
- DRYOPTERIS SALVINI (Baker) Kuntze. (No. 4007.)
- DRYOPTERIS VILLOSA INAEQUILATERALIS B. D. Gilbert, Bull. Torrey Club 24: 259. 1897. "Scarce in wet mould, in forest shade." Uchimachi, Yungas, August 22, 1894. (No. 2394.)
- PHLEGOPTERIS RIGIDA Hook. & Gr. "In mould, forest shade." Coripata, June 1894. (No. 2319.)
- PHLEGOPTERIS RIGIDA POLYPHYLLA Hook. (No. 2275.)
- PHLEGOPTERIS RUDIS Mett. "In wet, shaded places." Calapampa, July 4, 1894 (No. 2315); and wet clay (No. 2320).
- POLYPODIUM FRAXINIFOLIUM Jacq. A narrow-leaved form. "In damp mould, forest shade." Coroico, September 1, 1894. (No. 2402, perhaps distributed as 2802.)
- POLYPODIUM (*Phymatodes*) PERCUSSUM Cav. (No. 2206.)
- POLYPODIUM PLUMULA H. & B. No. 2927.
- POLYPODIUM CATHARINAE L. & F. (No. 2597.)
- POLYPODIUM PLEBEIUM Schlecht. & Cham. (Nos. 2592 and 2598.)
- POLYPODIUM SUBSESSILE Baker. (No. 2603, in part.)
- POLYPODIUM THYSANOLEPIS A. Braun. (No. 2603, in part.) See also *Acrostichum cuspidatum* for this number.
- POLYPODIUM LORICEUM LATIPES L. & F. In forest shade, Coroico, September, 1894. (No. 2434. Also No. 2207, without locality or date.)
- POLYPODIUM POLYPODIOIDES (L.) Hitchcock. (No. 4003.)
- POLYPODIUM GLAUCOPHYLLUM Kunze. The "var. a" of Hooker. (No. 2803.)

POLYPODIUM (Phymatodes) LYCOPODIODES L. An unusually broad fronded form, without fruit. A single specimen, without locality or date, included with *no.* 437.

POLYPODIUM PECTINATUM L. A form with nearly truncate base (*No.* 2228.)

POLYPODIUM PHYLLITIDIS L. "In mould, in forest." (*No.* 2462.) Uchimachi, Yungas, on decaying tree-trunks, August 22, 1894. (*No.* 2395.)

POLYPODIUM CRASSIFOLIUM L. "In black mould, in forest." Coroico, September, 1894. (*No.* 2447.) Coripata, April 23, 1894. (*No.* 2142.)

POLYPODIUM ANGUSTIFOLIUM Sw. "On decaying trunks." Coroico, September, 1894. (*Nos.* 2234 and 2461, or 2861.)

NOTHOLAENA FLAVENS Moore. (*No.* 2600.)

CHEILANTHES MATHEWSII Kunze. (*No.* 2661.)

GYMNOGRAMMA FLEXUOSA (H. & B.) Desv. (*No.* 2599.)

? *ACROSTICHUM HYBRIDUM* Bory. Possibly it is *A. scolopendrifolium* Raddi. Sterile fronds only seen. (*No.* 2608.)

ACROSTICHUM SQUAMIPES Hook. (*No.* 1791.)

ACROSTICHUM CUSPIDATUM Willd. Form with rather narrow fronds. (*No.* 2603, in part.)

ACROSTICHUM TECTUM (H. & B.) Willd. (*No.* 2602.)

ACROSTICHUM MUSCOSUM Sw. (*No.* 2601.)

ACROSTICHUM STRICTUM Raddi. (*No.* 4001.)

ACROSTICHUM LONGIFOLIUM Jacq. (*No.* 4000.)

ACROSTICHUM CERVINUM Sw. Sterile fronds only. (*No.* 4002.)

SCHIZAEA ELEGANS (Vahl) Sw. A small form. (*No.* 2925.)

ANEIMIA PHYLLITIDIS (L.) Sw. "Abundant in gravelly soil." Coripata, March 6, 1894. (*No.* 2080.)

MARATTIA ALATA Sw. "In wet mould, forest shade." Uchimachi, Yungas, August 22, 1894. Trunk short and thick, and petioles very long and fleshy. (*No.* 2393.)

BOTRYCHIUM TERNATUM (Thunb.) Sw.

Form near *B. dissectum*. (*No.* 2595.)

BOTRYCHIUM VIRGINIANUM (L.) Sw. (*No.* 2596.)

Ferns unfit for determination are *nos.* 4008, 4009, 4010 and 4012. *No.* 1804 is a fern prothallium.

BRYOPHYTA

SPHAGNUM CORYPHEUM Warnst. (*No.* 2928.) *Fide* C. Warnstorf.

SPHAGNUM MEDIUM Limpr. (*No.* 1854.) *Fide* C. Warnstorf.

- BRYUM ARGENTEUM LANATUM (Brid.) Br. & Sch. (No. 1844.)
 POLYTRICHUM CONFORME Mitt. (No. 2931.)
 POLYTRICHUM ARISTIFLORUM Mitt. (No. 2930.)
 ANTHOCEROS LAEVIS L. (No. 1803.)

LICHENES

- BAEOMYCES IMBRICATUS Hook. (Nos. 1846, 1866 and 1915.)
 CLADONIA GRACILIS VERTICILLATA Fr. (Specimen without number.)
 CLADONIA DEGENERANS Floerk. (No. 1847.)
 CLADONIA CERATOPHYLLA (Sw.) Eschw. (Specimen without number.)
 CLADONIA RANGIFERINA (L.) Hoffm. (No. 1849.)
 CLADONIA SPHAERULIFERA (Tayl.) Nyl. (Specimen without number.)
 PARMELIA AMERICANA Mez. & Flot. (No. 1851.)
 PARMELIA BOLIVIANA Nyl. (No. 1853.)
 USNEA BARBATA HIRTA Fr. (Specimen without number.)
 USNEA LAEVIS (Eschw.) Nyl. (Specimen without number.)
 STICTA ANDENSIS Nyl. (No. 1935.)
 STICTA BOLIVIANA Nyl. (Specimen without number.)
 STEREOCAULON MYRIOCARPUM Fr. (No. 1850.)
 STEREOCAULON PROXIMUM Nyl. (No. 1852.)
 STEREOCAULON MACROCARPOIDES Nyl. (No. 1856.)
 STEREOCAULON RAMULOSUM Ach. (No. 1785.)
 ALECTORIA JUBATA (L.) Ach. (No. 2046.)
 PHYSCIA GALACTOPHYLLA Tuck. (No. 1934.)
 URCEOLARIA CINEREO-CAESIA Sw. (No. 1855.)
 RAMALINA LAEVIGATA Fr. (No. 1937.)
 RAMALINA CALICARIS CANALICULATA Fr. (Specimen without number.)
 LEPROCAULON ARBUSCULA Nyl. (Specimen without number.)

FUNGI

- HYPOXYLON ANNULATUM Fr. "Growing on old stems." Calapampa, July 4, 1894. (No. 2310.)
 FAVOLUS BRASILIENSIS Fr. (No. 1951.)
 MITRULA sp. Specimens immature. (No. 1867.)
 (The following are galls: Nos. 2101, 2102, 2103, 2104, 2105, 2109.)

A PECULIAR GROUP OF SOLANACEAE.

Since the printing of the preceding signatures, I have learned that Mr. Bang's *no. 1210* was a mixture of two species. One of these is said by Dammer (Bot. Jahrb. 37:639. 1906) to be *Brachistus tetrandrus* (Br. & Bouché) B. & H., a plant that I do not know. The other agrees exactly with the figure of Ruiz & Pavon of their *Solanum anceps*. It is the same as *Rusby 766* and *Bang 2513* and *2526*. This species I transferred (Bull. Torrey Club 26:197) to the genus *Bassovia*. No one with a modern knowledge of the genera of *Solaninae* could regard this plant as a *Solanum*. In general habit, anthotaxy, calyx, corolla and fruit, it is a perfect *Bassovia*. Its stamens show a partial tendency to be separate as in *Bassovia*, but they end in pores, and these pores are exceptionally large and conspicuous, and of peculiar appearance, and are continued into sutures, as in *Cyphomandra*. The anthers, moreover, are somewhat enlarged upward. These characters would exclude the plant from every genus except *Solanum* and *Cyphomandra*, and the latter is outside of consideration here.

On page 420 of this paper, I have described "*Solanum* (?) *bassoviicarpum*," and have said that I placed it in *Solanum* with reluctance. A comparison shows it to have exactly the same anther-characters as those of *S. anceps*.

In Bull. Torrey Club 26:194, I have described "*S. psidiifolium*." When Dr. Britton first received this plant, he called it "*Bassovia Rusbyi*" (MS.), but I could not admit it to that genus, because of its anther-characters, now seen to be the same as those of the plants above discussed. My "*S. Lindenii*" (Mem. Torrey Club 6:88) is so close to the last-named that it may be only a variety of it. My "*S. clavatum*" (l. c. 87) has the same anthers, as has "*S. brevipedunculatum*" (ante, page 421). There are other peculiarities in which all the plants above named agree. They have scorpioid pseudo-racemes, the rachis nodose with the pedicel-bases of the fallen flowers. However different the foliage of the species, there is also a similarity, indescribable perhaps, but bespeaking relationship. There is a very strong similarity between these plants and the genus *Bassovia*, and one is inclined to regard them as forming a section of that genus, but the striking anther-characters appear to forbid this course. The other course is to regard them as forming a distinct genus. This is probably what I

shall do, but the subject requires more study than I can bestow upon it before publishing this paper.

The puzzling and contradictory characters of the *Bassovia-Brachistus* group have led me into other errors, and I must now make the following admissions:

Bassovia Fendleri Rusby (Bull. Torrey Club 26: 197) is **Brachistus Fendleri**. *Bassovia inaequilatera* Rusby (Mem. Torrey Club 6: 90), as to *Bang* 1708, but probably not *Rusby* 765, is **Brachistus inaequilaterus**.

In the genus *MICONIA*, in the present paper, are several unfortunate typographical errors in the citation of collection-numbers. These should be corrected as follows:

Page 357. *M. CORDATA*. (*Nos.* 1995 and 2186.)

M. GLOMULIFERA. (*No.* 2856.)

Page 358. *M. GRANULOSA*. (*No.* 2485.)

M. MACROPHYLLA. (*No.* 2670.)

M. MINUTIFLORA. (*No.* 2213.)

Page 359. *M. THEAEZANS SUBTRIPLINERVIA*. (*No.* 2299.)



